



GENERAL PLAN COMPREHENSIVE UPDATE

CITY COUNCIL APPROVED TEXT

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**MARCH 9, 1999
CITY COUNCIL RESOLUTIONS #99-28, 99-29 & 99-30**

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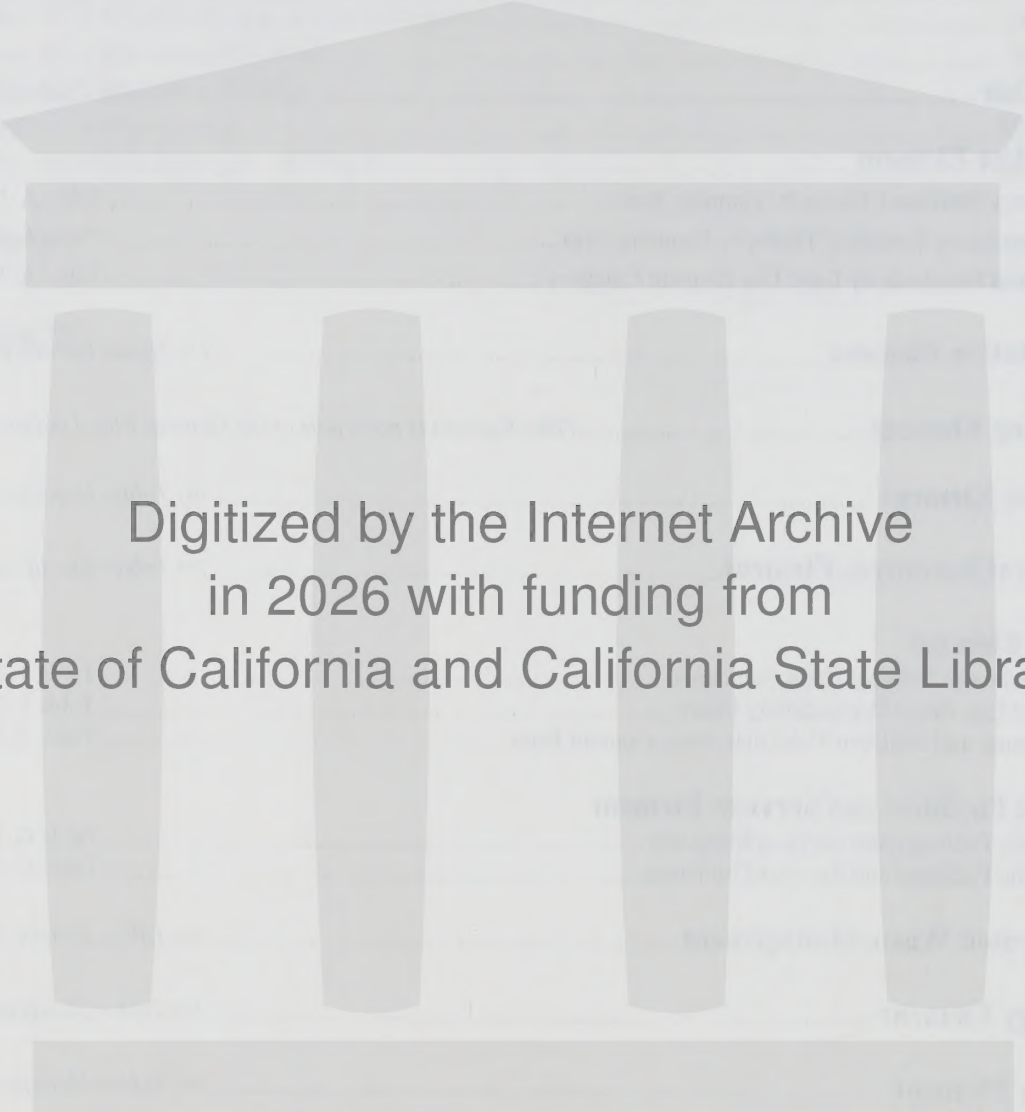
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INTRODUCTION

The vision of the City: The creation of a livable and viable and visually attractive community through skilled planning and sustainable development as outlined in this General Plan.

What is a General Plan?

The General Plan is a state-mandated document that represents the long-range vision of the City. The community's relation to the region, along with local issues and trends are considered to determine service priorities and methods to guide development and conservation of resources. The plan, which is periodically updated, reflects the City's vision for the future. When evaluating proposals, decision-makers refer to the plan to see how the proposal achieves the desires of the community.

What is the role of the General Plan?

The Irvine General Plan is a comprehensive, long-range statement of Irvine's development and preservation policies. The Plan is comprehensive because it addresses all geographic areas of the City and its sphere of influence and the relationships between social, financial, environmental and physical characteristics. While a specific buildout year is not determined, the plan is forward-looking by determining facilities and programs to support future land uses.

The City of Irvine General Plan is intended to be used by residents, business owners, City officials and all those interested in the direction of the City.

The General Plan guides the decision makers in determining whether or not land use proposals are consistent with the applicable goals, objectives and policies. It reflects the community's values and goals, and serves as the basis for all of the City's land planning policies.

The General Plan includes both the mandated elements of the Government Code Section 65302 as they apply to the local conditions and optional elements designed to address high priority topics of City interest.

The General Plan is kept up to date with current issues, trends, and community needs through periodic amendments. When an amendment occurs, special attention is given to make sure that all components work in harmony and the plan maintains its internal consistency as required by state law.

The City of Irvine's mission statement expresses a desire to maintain the highest quality of life through the following:

- Creative planning.
- Prosperous business atmosphere.
- Environmental quality.
- Unique neighborhoods connected into one community.
- Extraordinary amenities and infrastructure.
- Cultural diversity.
- Community involvement.
- Educational excellence.
- Quality and responsiveness in government.

The General Plan implements the City's vision through its goals, objectives and policies.

History of Irvine's General Plan

Irvine's first General Plan was adopted in December, 1973. That plan reflected three options for long-term development: a low intensity, medium intensity and high intensity development plan.

In 1977, General Plan Amendment 4 constituted the first major amendment to the General Plan. This change converted the three land use options to a single land use (medium intensity) plan.

In 1989, General Plan Amendment 16 comprehensively addressed the City's needs for open space and incorporated a program to preserve approximately one-third of the City and sphere of influence, as open space.

Organization Of The General Plan

The General Plan is divided into three sections. The first section contains the elements. The second section consists of the Glossary of General Plan terms. The third section consists of an Appendix containing technical information which is not needed for daily planning activities but is important background information.

Elements

The General Plan is composed of elements which address a broad and evolving range of issues. Each element of the plan identifies and describes goals, objectives, and implementing actions which provide specific direction for decision making and formulation of public policy.

The General Plan contains seven elements required by the State Planning, Zoning and Development Laws and six optional elements which relate to the development of the City. They are as follows:

Mandated Elements

- Land Use
- Circulation
- Housing
- Conservation and Open Space
- Noise
- Safety
- Seismic

Optional Elements:

- Public Facilities
- Waste Management
- Energy
- Parks and Recreation
- Cultural Resources
- Growth Management

Each element of the General Plan contains the following:

- A stated goal.
- An introductory description.
- An explanation of existing conditions in the City.
- Trends.
- Objectives.
- Policies.
- Compliance regulations.
- Supplemental information.

The introductory section of each element provides an overview of the element and background information which lends understanding to the policies set forth in the goal section.

The goal section is comprised of:

- **Goal:** A general statement of vision pertaining to City policy. The goal is an ideal conditions which the community hopes to attain.
- **Objectives:** A specific statement of purpose relating directly to the goal.
- **Policy:** An action, activity or strategy to implement the related objective and goal.

Objectives and Policies guide day-to-day decision-making so there is continuing progress toward the Goal. These reflect actions that the City intends to follow to attain the stated goal. Some elements contain standards which are specific, quantified guidelines, which can translate into regulatory controls. Examples of standards are the level of service standards found in the Circulation Element and the noise standards found in the Noise Element.

Because the General Plan is comprehensive, the subject matter addressed by each element provides a portion of a larger picture.

The goal of the City of Irvine is to develop and maintain a high quality environment and to ensure its long-term protection. To comprehensively address environmental issues, an Environmental Impact Report (EIR) is prepared for the General Plan in accordance with the California Environmental Quality Act (CEQA).

The EIR is an informational document for the public, governmental agencies, and City officials to evaluate the environmental consequences of the proposed General Plan development and conservation policies. Specialized studies, addressing issues such as traffic and biotic impacts, are conducted for the EIR.

Mitigation measures to reduce impacts to the natural environment are recommended. Environmental impacts which cannot be avoided are discussed. Many of the mitigation measures are incorporated into the General Plan as ongoing policies. The EIR prepared for this General Plan is a "Master" EIR. A Master EIR may be used as the environmental documentation for proposed land use proposals that are consistent with the General Plan and will not create any additional environmental impacts. Using a Master EIR eliminates unnecessary, redundant studies and facilitates the review of land use proposals.

By evaluating alternative land use policies and recommending mitigation measures, the EIR is an integral component of the General Plan. The EIR for the General Plan is a separate document. It can be located in the Community Development Department.

Administering The General Plan

Consistency Provisions

The charter of the City of Irvine requires the Zoning Ordinance to be consistent with the General Plan. Additional state and local statutes, while not mandating consistency, require findings or a report on whether proposed actions conform to the General Plan. The state's general rule for consistency determination is stated as:

“An action, program, or project is consistent with the General Plan if it, considering all aspects, will further the objectives and policies of the General Plan and not obstruct their attainment.”

A complete listing of consistency provisions can be found in the State of California's General Plan Guidelines, Chapter 5, Consistency in Implementation.

Amending and Updating The General Plan

The City should periodically review the Plan to determine whether it is still in step with community values and conditions. In addition, the Housing Element is reviewed every five years according to a schedule determined by the State of California Housing and Community Development Department.

Amendment Process

The City's original General Plan was adopted in 1973, and since that time, several amendments have been adopted. Amending the General Plan is a necessary process to maintain a current and responsive General Plan. Amendments to each element in the General Plan are limited by state law to four times per calendar year. Most amendments involve a change to the land use designation

of a particular property. However, amendments to any part of the text, goals, objectives, or policies may also be appropriate.

A General Plan amendment may be initiated by private property owners, the City Council, the Planning Commission or Director of Community Development. Final approval is granted by the City Council, following a public hearing and review of recommendations from the community, Planning Commission, and staff.

For further details on the General Plan amendment process, see City Council Resolution Numbers 87-108 and 90-133, and Chapter 2 of the Zoning Ordinance.

City of Irvine Profile

Location

The City of Irvine is located approximately two miles inland from the Pacific Ocean and 40 miles south of the City of Los Angeles. The City of San Diego is 80 miles south of Irvine.

Irvine is accessible by ground transportation along Interstates 5 and 405. State highways 55 and 133 also pass through the City. Air travel is available at John Wayne Airport, located immediately adjacent to the Irvine Business Complex. John Wayne airport currently offers direct service to major cities and handles seven million seven hundred thousand passengers annually.

Neighboring cities include Newport Beach and Laguna Beach to the south; Costa Mesa, Santa Ana and Tustin to the west; the future boundary of the City of Orange, unincorporated areas of the County of Orange to the north; and the Cities of Lake Forest and

Laguna Hills to the east. The regional location is illustrated on Figure 1.

Community Profile

Irvine was incorporated in 1971 and has developed into a strong, diverse community. The central Orange County location and attention to balanced planning have resulted in a city of regional importance. As of 1997, the City had a population of approximately 125,000 and is expected to have 140,000 residents by the year 2000. The City covers forty-five square miles. Annexation of the sphere of influence will increase the City area to seventy-four square miles. Businesses located in the Irvine Business Complex and Spectrum areas of the City employ more than 177,000 individuals.

The Irvine Unified School District is currently one of the top school districts in California. In addition, the Santa Ana Unified School District, Tustin Unified School District and the Newport-Mesa School District serve the City. Irvine is the location of the following colleges and universities: Irvine Valley Community College; Concordia University; National University; Pepperdine Graduate Business School; Webster University; University of Southern California extension facility, and the University of California, Irvine.

A 177-bed hospital is also within the City, as well as numerous medical offices. Shopping centers are within a short drive or walking distance from most homes.

The climate is Mediterranean with approximately 15 inches of rainfall per year, and year-round average temperatures range from 48 to 76 degrees.

History

The City of Irvine is located on part of what is known as the Irvine Ranch. This area was first populated by Native Americans. During the subsequent period of Spanish control, three Mexican-Spanish land grants covered 110,000 acres which were devoted to sheep grazing. In 1876, the Irvine family acquired a portion of the land grants. Subsequently, ranch operations shifted from sheep grazing to agriculture. Crops were devoted to citrus, wheat, and lima beans. In 1894, James Irvine II incorporated the ranch into The Irvine Company.

Later, his son, Myford Irvine, inherited the presidency of the company and began opening small sections of the ranch to urban development. In 1959, the University of California acquired 1,000 acres from The Irvine Company for a new campus. Subsequently, the University purchased an additional 500 acres. The University's consulting architect, William Pereira, and The Irvine Company planners proposed a university-oriented community and prepared a master plan for the ranch. Irvine's General Plan has evolved from that original master plan.

Topography

The City of Irvine lies within the Trabuco Plain between the San Joaquin Hills along the coast, and inland foothills of the Santa Ana mountains, known as the Santiago Hills.

The Trabuco Plain is relatively flat, with a gradient of less than one percent, and was formed by materials that eroded from the hillsides. The surface soils consist of Class I and II agricultural soil as classified by the US Soils Conservation Service. The San Joaquin Hills consist of rolling terrain with moderately steep slopes, canyons and narrow ridges. The

Santiago Hills rise 1,700 feet above sea level, forming a prominent ridgeline along the northern edge of the City's sphere of influence. Both chains of hillsides were formed by marine sediments deposited millions of years ago.

Planning Areas

The General Plan divides Irvine into large neighborhood districts called "planning areas." Each planning area includes a variety of land uses and is allocated a residential and/or nonresidential development potential. Policies in the General Plan identify public facilities standards for new development. Each planning area is intended to feature a distinct community character which results from the following components: road systems, architectural identity, density, parks, schools, greenbelts.

Planning areas are linked by streets and a series of off-road hiking, riding and bicycling paths. These linear parks are located along electrical transmission line easements, creeks and greenbelts which link the City in a north-south and east-west grid pattern.

The multi-use activity corridor links the City in an east-west axis along the parallel roads of Barranca Parkway and Alton Parkway. A mix of public and private recreational, commercial and worship facilities is found in this area.

Considered to be Orange County's most livable city, Irvine offers many recreational amenities with a wide variety of housing opportunities and a balance of employment opportunities.

Urban Design

The General Plan provides the urban design framework for the City, both at the planning area level and at the site-specific level.

Components of the urban design theme consist of a mix of land uses with a unique image and character including natural (hills and flatlands) and manmade (architectural styles, landscape and open space spines) features. Implementation of the General Plan's policies and standards creates a cohesive yet diversified image and identity for the community.

Additional Information

Additional information pertaining to the General Plan can be obtained by contacting the City's Community Development Department:

Irvine City Hall
1 Civic Center Plaza
PO Box 19575
Irvine, California 92723-9575
(949) 724-6000

"Curiously, history records very few examples of regional master planning where not only the new towns but the interrelated land uses of the surrounding areas are planned together... The prospect of planning from scratch an entire complex within a major population center rather than hundreds of miles away from it - and to do it under private rather than governmental auspices - would seem to most planners an impossible dream. Well, we have that dream right here."

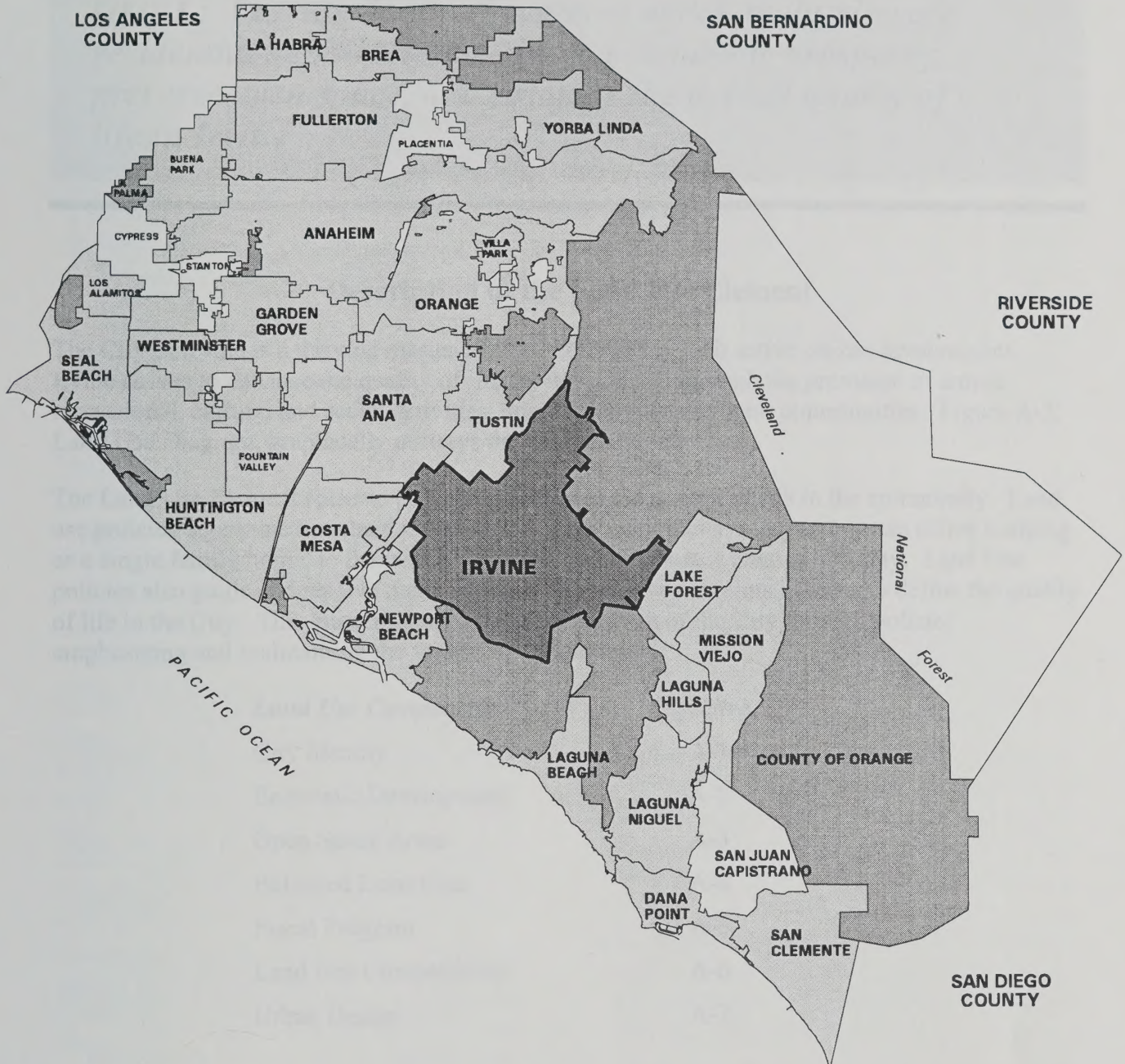
*William Pereira, Architect, Pereira & Associates.
Original designer of the Irvine Ranch Master Plan. Time Magazine, September 6, 1963.*



City of Irvine General Plan



Figure - Intro - 1



REGIONAL LOCATION

ELEMENT A **LAND USE**

GOAL: Promote land use patterns which maintain safe residential neighborhoods, bolster economic prosperity, preserve open space, and enhance the overall quality of life in Irvine.

Description of the Land Use Element

The City of Irvine is a thriving master-planned community with active citizen involvement. Irvine strives to enhance the quality of life for its residents through the provision of ample recreational, cultural and social activities, housing, and employment opportunities. Figure A-3, Land Use Diagram, graphically portrays the land uses in the City.

The Land Use Element seeks to protect and enhance the quality of life in the community. Land use policies determine how land is developed in the community, ranging from an office building or a single family home, to the number of parks and open space areas in the City. Land Use policies also guide and resolve many land use issues and constraints in order to define the quality of life in the City. This element guides the future growth of the City through policies emphasizing and maintaining the following components:

<i>Land Use Components</i>	<i>Objective</i>
City Identity	A-1
Economic Development	A-2
Open Space Areas	A-3
Balanced Land Uses	A-4
Fiscal Program	A-5
Land Use Compatibility	A-6
Urban Design	A-7

The Irvine Community: Existing Conditions

The City of Irvine and its sphere of influence are located within the coastal and foothill region of central Orange County.

Irvine is surrounded by the cities of Newport Beach, Lake Forest, Tustin, Santa Ana, and Laguna Beach, as depicted on Figure A-1, Vicinity Map.

The prominent landform areas in the City, Lomas de Santiago Hills, northern flatlands, central flatlands, and San Joaquin Hills (Figure A-1), influence the way residential and business development occurs in the City. The development portions of the City are located in the northern and central flatlands, and along the westerly portion of the San Joaquin Hills.

The City is divided into distinct neighborhoods called planning areas (Figure A-2), with each planning area having its own character. Each planning area is designed to serve a diversity of lifestyles. Through creative planning, each neighborhood is unified to create a sense of community identity.

Residential growth has been concentrated within the central portions of the City (Planning Areas 5, 8, 10, 11, 12, 14, 15, 19, 20, 21, 24, 36, 38, and 50). Each planning area has a unique theme which provides a sense of identity through its design and connection with surrounding retail and other amenities. Existing neighborhoods includes conveniently located retail, office, and public facilities to support residential development. The convenient location of community facilities, in relation to the residential areas, promotes their viability and vitality.

Employment growth has been concentrated adjacent to regional transportation facilities (i.e., airport, freeways, and train station) on the western and eastern edges of the City (Planning Areas 12, 13, 31, 32, 33, 35 - Irvine Spectrum, 36 -Irvine Business Complex , and 50-University of California, Irvine). Planning Area 50 has grown rapidly and is a major employment generator. Planning Areas 13, 31, 32, 33, 34, 35, and 36 are important regional employment centers with a variety of industrial uses and office complexes.

"Irvine is like a necklace, each village is a gem of that necklace, so you'll find a difference between each gem, not like a set of pearls looking the same. Each village is its own gem, it doesn't become a community until you string it together and hold it together; and it's a necklace."

Ray Watson, Vice Chairman of The Irvine Company

The northern and southern hillside areas of the City are largely undeveloped lands. These areas provide an extraordinary view of the surrounding mountains and the ocean. Portions of these hills will eventually be developed with residential units, while other portions will remain as permanent open space. The northern flatland area, located adjacent to the El Toro Marine Corps Air Station, remains undeveloped because of high noise and crash hazards from the base. However, the County of Orange has proposed a commercial airport in this area.

Both the residential and employment populations have experienced a tremendous amount of growth and change since incorporation in 1971. Land use policies have been developed to help shape the community's growing diverse population and to continue providing high quality amenities and infrastructure to make Irvine a safe and exciting place to live. The physical

development of the City is the result of deliberate choices regarding what to build, create, and experience within the City.

Land Use Element policies, as identified in Objectives A-1 through A-6, provide for short-term and long-range management of the City's natural and built environments, and monitoring of development.

The Irvine Ranch was formed in 1864 from three large Spanish-Mexican grants. During the early years, the ranch was devoted to sheep grazing. In 1893, ranch operations began shifting to field crops such as olives and citrus orchards. In 1910, Irvine was the world's leading producer of lima beans.

Trends

Development of the balance of the City represents a transition from a new town to a mature City. When Irvine was incorporated in 1971, it encompassed 28.3 square miles and had a population of 20,156. In 1997, the City encompassed 45 square miles and contained a population of 125,000.

As the City continues to develop and move toward ultimate build out, additional applications for boundary changes will occur, consisting of either annexation or detachment of land. For example, the northern sphere of influence will begin to develop over the next ten years, and the City anticipates annexing the areas. Any proposals to modify the City boundaries should be reviewed carefully to ensure continued consistency with the General Plan.

Irvine promotes the well-being of all people through quality schools, comprehensive child care programs, effective law enforcement, a variety of housing

opportunities, and an expansive open space system.

Irvine's philosophy is to create and maintain a community where people can live, work, and play in an environment that is safe, vibrant, and aesthetically pleasing.

In 1991, Irvine was twenty years old and had reached the halfway point of its projected growth and development. Build-out is estimated in the year 2040. In the transition to a mature city, Irvine will need to manage a defined and established urban area, while accommodating the expected development of what amounts to the doubling of the residential population and tripling of its employment population. Commercial and industrial development will likely continue to out-pace residential development. The City faces the challenge of ensuring that the City's investment in its quality of life is protected while planning for the future needs of the community.

Land Use Categories

The General Plan designates the general distribution and location of land to be used for residential, business, industry, open space, and other categories of land use. The land use categories and diagram (Figure A-3) guide future development and growth in a way that promotes the health, safety, and welfare of the community. The Land Use diagram identifies historical resources, resources in the City that may have historical significance, and a waste facility, which may involve activities related to processing, treatment, handling, transfer, or disposal of hazardous waste.

Each land use category is described on the following page, with corresponding land use intensities and densities presented in the statistical table (Table A-1). In addition, the non-regulatory statistical table (Table A-2)

is used to establish service level demands and infrastructure needs for each category.

The following categories are described below: Residential, Institutional, Commercial, Business/Industrial, Multi-Use, Military, and Conservation/Open Space.

Residential

Definition: Land designated for varying intensities of housing. The five residential subcategories below define the number of dwelling units per acre and identify the desired product type to be built.

However, development is not limited to the stated product types in each subcategory. Other uses such as schools, parks and churches may be found in the residential category, as appropriate.

Estate Density (0 - 1 units/acre). This level of density is intended for the development of large detached single family homes in the hillside areas of the City.

Low Density (0 - 5 units/acre). This level of density is intended for the development of attached and conventional detached housing and other appropriate uses, such as schools and parks, compatible with single-family neighborhoods.

Medium Density (0 - 10 units/acre). This level of density is intended for the development of attached and conventional detached housing and other types of residential uses that have open space characteristics similar to single-family neighborhoods.

Medium-High Density (0 - 25 units/acre). This level of density is intended for the development of multifamily housing with on-site recreation areas for common use.

High Density (0 - 40 units/acre). This level of density is intended for the development of

multifamily housing with on-site recreation areas for common use.

Density averaging within a General Plan residential category may be permitted at the time of zoning or concept plan in order to provide a mix of housing types and opportunities through lower and higher densities. The total may not exceed the category's maximum number of dwelling units for the planning area (i.e., Table A-1) and may not affect the phased dedication requirements (see Objective A-3).

Institutional

Definition: A variety of publicly or privately owned and operated facilities (hospitals, schools, religious facilities) and other nonprofit land uses.

Some institutional land uses (e.g., schools, utilities, and public facilities) are allowed in all Land Use Element categories consistent with established City ordinances and policies.

Educational Facilities. This land use category includes public and private schools and support facilities from kindergarten through college/university levels. Dormitory uses associated with college/university-facilities are allowed under this designation. Any conversion ratio of residential dwelling units to dormitory units shall be determined in conjunction with the review and approval of required discretionary development cases. In such cases, the projected population associated with the conversion of dwelling units shall not exceed the projected population associated with the maximum intensity of residential dwelling units allocated for the institutional land use as defined in Table A-1. While the location and size of public educational facilities are the responsibility of the various school districts, the City

cooperates in reserving the necessary land to accommodate future facilities. Most of the City is within the Irvine Unified School District, however some areas in the City are under the jurisdiction of the Tustin and Santa Ana School Districts.

Public Facilities. This land use category includes government, public, quasi-public, and community owned facilities. Also includes uses that may be privately owned, but are nonprofit and generally open to the public. Typical uses would be post offices, libraries, museums, places of worship, child care centers, fire facilities, police stations, government buildings, non-profit housing, utilities and other related uses.

Commercial

Definition: A variety of facilities for the sale and purchase of commodities and services.

Neighborhood Commercial. This land use category provides convenience shopping opportunities such as dry cleaners, grocery stores, barber shops, restaurants and similar types of uses for the surrounding planning area.

Community Commercial. This land use category includes uses intended to serve the needs of the community at large, including the industrial and business areas. Automobile service, retail, professional/administrative offices, commercial recreation facilities, service businesses, and similar types of uses are allowed under this designation. Research and development uses are conditionally permissible if compatible with surrounding land uses.

Regional Commercial. This land use category includes uses intended to serve

a broad population base. Businesses in this designation provide a wider array of services such as major department stores, specialty shops, professional offices, hotels and motels, and institutional and government uses.

Commercial Recreation. This land use category includes recreational and leisure time activities such as amusement parks and miniature golf courses.

Industrial

Definition: The manufacture, production, and processing of goods.

Research/Industrial. This land use category includes uses intended for the manufacturing, research and development, storage, and distribution of materials or products; administrative, professional, and business offices associated with manufacturing uses; and employee-oriented retail services.

Urban/Industrial. (Irvine Business Complex) This land use category provides for offices, industry, and support commercial, mixed with high density housing, and a variety of activities. Typical uses are professional/medical offices, industrial manufacturing, research and development, support service retail, restaurants, multifamily housing and hotel/motels.

Multi-use

Definition: The integration of a variety of land uses and intensities.

Multi-use. This land use category includes uses which are high intensity and urban in character. Typical uses include medium to high density

residential, commercial, institutional, and offices.

Military

Definition: Land under the jurisdiction of the United States.

Marine Corps (MCAS El Toro and Tustin Marine Bases). Military air operations, training and related enterprises, and support activities serve as the foundation for the land uses allowed by the federal government. In this land use category, commercial or general aviation is prohibited.

Conservation and Open Space

Definition: Land or water that is essentially unimproved for the purposes of management and natural resources, production of preservation or enhancement of resources, outdoor recreation, or public health and safety.

Agriculture. This designation identifies land utilized for commercial nurseries and for the production of food, including the growing of crops or grazing of animals on natural prime or improved pasture land.

Preservation Area. This designation identifies lands that contain visually significant ridgelines, biotic communities of high significance, geologic constraints, and cultural resources. These lands have been judged desirable for permanent preservation in a natural state with little or no modification. They have also been amassed in a manner, which, overall has been judged to be more protective of natural resources than could be achieved on an incremental basis with individual development projects.

Passive, noncommercial public recreation, utilities, cattle grazing, scientific research, transition zones, and flood control facilities and other similar uses are allowed in this category.

Irvine adopted a plan in 1989 to permanently preserve approximately 9,500 acres of open space in the City and its sphere of influence. The plan created the largest publicly owned open space system of any city of comparable size in California. Areas to be preserved as a result of the plan are Bommer Canyon, portions of Shady Canyon, Quail Hill, the San Joaquin Marsh, and the Santiago Hills.

Recreation Area. This designation contains uses primarily for active public recreational activities that are enjoyed by the immediate and the surrounding communities. City-owned parks, regional parks, golf courses, and other similar uses are allowed in this category.

Water Bodies. This designation identifies public and privately owned reservoirs and lakes which will provide the City with water resources and opportunities to develop water-related recreation activities.

NCCP/HCP Reserve Areas (Natural Communities Conservation Program/Habitat Conservation Plan). This designation identifies land areas set aside to protect and manage habitat supporting a broad range of plant and animal populations that are found within the central and coastal subregions.

Identification of Issues

1. How can the City maintain a mix of land uses in order to provide adequate housing and employment opportunities?
2. How can the City balance employment, population growth and fiscal constraints?
3. How can the City address the cumulative effects of employment and population increases on the City's infrastructure and financial base?
4. How can the City identify and consolidate conservation and open space areas into large contiguous areas?

Response to Issues

The following objectives, and policies have been formulated to respond to land use issues. Please refer to the Natural Communities Conservation Program for more information.

OBJECTIVE A-1 CITY IDENTITY

Preserve and strengthen Irvine's identity as a diverse and innovative community.

The following policies support Objective A-1:

Policy (a): Develop identifiable City edges, pathways, entry points, and landmarks, and conserve visual resources along the scenic corridors which characterize Irvine.

Policy (b): Use building masses and landscaping to create a sense of unity for the various components throughout the City.

Policy (c): Ensure energy efficiency and low maintenance needs through the following methods:

- Land use planning.
- Building design.
- Landscaping design.

Policy (d): Maintain and enhance the physical appearance of the City as the infrastructure ages and the growth rate declines.

Policy (e): Enhance civic pride by maintaining high quality and attractive facilities.

Policy (f): Promote sustainable development through energy and water conservation, reduced reliance on non-renewable resources, and the use of native trees, shrubs, and grasses with low maintenance costs.

Policy (g): Distinguish individual planning areas in character and physical appearance by considering the following characteristics during design and development:

- Physical and visual separation.
- Architectural style.
- Planning area edge.

Policy (h): Incorporate the following components in each residential planning area:

- A mixture of housing types and densities.
- A variety of public and private facilities.
- Activity nodes.
- Open space areas.

Policy (i): Promote creative and diverse methods of incorporating City identity in the development of City infrastructure. Methods may include, but are not limited to, the following:

- Concrete hardscape with impressions of people, flora, fauna or historical scenes.
- Unique building materials.
- Wall murals.
- Signs.
- Streetscape designs including street furniture, period light poles, statuary, fountains or unique landscaping such as topiary or native plants.
- Festive or seasonal banners.

OBJECTIVE A-2 ECONOMIC DEVELOPMENT

Promote viable commercial centers, successful manufacturing areas, and dynamic employment centers.

The following policies support Objective A-2:

Policy (a): Retain and attract manufacturing and industrial uses within designated business centers.

Policy (b): Provide neighborhood retail and service centers within walking or biking distance of residential communities and employment centers.

Irvine aspires to strengthen the City's economic base and create a climate in which businesses can prosper by promoting Irvine as the "City of choice," retaining our existing business base, creating quality employment opportunities, and reducing regulations and the cost of doing business.

Although industry is a major segment of Irvine's economy, the City also boasts many thriving retail centers and service firms. Irvine is the location of many of the nation's most successful companies, from medical and the bio-sciences to high-technology firms.

Policy (c): Provide community commercial centers to serve more than one planning area.

Policy (d): Combine day and night uses in commercial centers by permitting shared use parking for off-peak activities (churches, movie theaters, etc.).

Policy (e): Designate commercial centers in each planning area consistent with the size of the planning areas being served.

Policy (f): Promote support and service retail uses within the business/industrial land use designations.

Policy (g): Promote Irvine as a city of choice for business through development of the following:

- A proactive marketing plan.
- Public/private partnerships to promote business relations.
- Business outreach programs.

- Business assistance programs.
- Affordable housing opportunities for Irvine employees.
- Business incentives.

Policy (h): Retain and attract businesses that meet the shopping and service needs of the community as well as create quality employment opportunities.

- Permitting flexibility in grading standards in roadway design, when applicable.

Policy (d): Ensure developments occurring in close proximity to NCCP/HCP implementation areas are consistent with the NCCP plan and/or implementing agreement.

OBJECTIVE A-3 OPEN SPACE AREAS

Encourage land use development that preserves the beauty of the natural environment.

The following policies support Objective A-3:

Policy (a): Preserve the City's open space areas through implementation of the Phased Dedication and Compensating Development Program.

Policy (b): Ensure development in the hillside areas retains the character and aesthetic value of the natural landform through use of the Hillside Development Ordinance.

Policy (c): Design roadways to preserve the natural topography and minimize their impact on any environmentally sensitive areas through the following efforts:

- Designing alignments to pass around rather than through sensitive areas.
- Designing grade separation of roadways when applicable.

On June 7, 1988, the residents of the City approved the Open Space Initiative. The objectives of the Open Space Initiative are: Consolidate important conservation and open space areas into large contiguous areas that may be integrated into local and regional open space areas.

Establish a network of open space spines linking the consolidated conservation and open space areas.

Assure the preservation of conservation and open space areas through a Phased Dedication and Compensating Development Opportunities Program, which transfers development opportunities from conservation and open space areas and consolidates them in appropriate development areas. The program links the dedication of conservation and open space areas to the development entitlement process. The purpose of the program is to provide permanent protection of open space by means of public ownership. With completion of the program, which is described in Appendix A of the General Plan, all major open space preservation areas that are required to assure a balance of development and open space will be secured.

OBJECTIVE A-4

BALANCED LAND USES

Manage growth to ensure balanced residential and nonresidential development throughout the City.

The following policies support Objective A-4:

Policy (a): Ensure that land uses enable the City to provide necessary municipal services by:

- Implementing and monitoring Statistical Tables A-1 and A-2.
- Establishing development intensity for the institutional designation in addition to the development intensity allowed in the adopted land use category.

This policy applies to those institutional uses which support the surrounding land uses. Included institutional uses are public schools, libraries, museums, places of worship, day care and child care centers, police and fire stations, institution-related housing and not-for-profit housing.

- Adjustments to square footage will be included in the development monitoring program and reflected in the statistical tables through annual technical updates. Institutional uses will be considered consistent with the General Plan if the following criteria are met:
 - a. All significant environmental impacts are mitigated to a level of insignificance; and

- b. Infrastructure capacity under existing and future (buildout) conditions can accommodate additional development in the areas of circulation, fire, police, water, and flood control services; or
- c. Development intensity under the adopted land use category is exchanged for intensity to accommodate institutional development in the areas of circulation, fire, police, water, and flood control services within the same planning area.

Policy (b): Prepare an annual monitoring report regarding the development trends in the City to ensure that phasing of future development provides adequate housing and employment opportunities.

Policy (c): Achieve a land-use balance through the following methods:

- Coordination of land use and circulation patterns to ensure adequate circulation capacity and infrastructure.
- Promotion of a diversity of housing types and affordability to meet the development objectives of the Housing Element.
- Designation of sufficient institutional land to meet the needs of each planning area.
- Provision of adequate housing opportunities to support employment growth.
- Preservation of open space areas.

Policy (d): Reduce expenditures for public services and facilities by clustering residential development.

Policy (e): Coordinate strategies with the County of Orange to meet housing and employment needs.

Policy (f): Attract land uses that generate revenue to the City, while maintaining a balance of other community needs such as housing, open space, and public facilities.

Policy (g): Maintain accurate statistical information and intensity ceilings in the General Plan through the following efforts:

- Considering the land use impacts of any decision to modify the City's boundaries, including required modifications to Tables A-1 and A-2.
- Reducing the allowed intensity of development in conjunction with any action to detach lands from the City's boundaries or sphere of influence, consistent with any existing agreements between the City and the property owner that regulate development intensity. When intensity is reduced, the intensity in Table A-1 shall be reduced in proportion to the amount of acreage detached in each land use category.
- Evaluating land use intensities in conjunction with the review of any zone change to permit development or modify intensity. Factors to be considered include, but are not limited to, the following: the maximum intensity allowed pursuant to Table A-1 of the General Plan; large infrastructure improvements planned or built in the project area that have reduced land available for development; circulation patterns; environmental constraints; and compatibility with surrounding land uses. If the amount of land available for development is significantly lower than the gross acreage identified in the General Plan, the City shall consider reducing intensity.

- Allocating intensity to a specific planning area(s) in lieu of banking intensity when it is the City's desire to transfer intensity between planning areas.
- Requiring a General Plan Amendment and zone change to allocate units banked pursuant to the NCCP Facilitation Agreement as depicted in Table A-1.

"We wanted to make Irvine a place where people would say, 'This is my home.' A balanced community with jobs, housing, schools, parks, retail, and a university."

Ray Watson, Vice Chairman of The Irvine Company

Policy (h): The City Council shall consider the concurrent processing of a General Plan amendment (and/or zone change) with proposals to reorganize its municipal boundaries, including any request to annex or detach land, or adjust the City boundaries or the sphere of influence (municipal boundary reorganization). The review of the proposal shall make the following determinations:

- Consistency with the General Plan, specifically to reconcile the land use diagram and the regulatory and non-regulatory intensity tables
- Consistency with the Zoning Ordinance.
- Consistency with all applicable agreements (including, but not limited to the Open Space Memorandum of Understanding, the Planning Area 26 detachment agreements, the NCCP Facilitation Agreement, and other development agreements).
- Whether to depict the detached areas on the City's land use diagram.

- Proposals which consist only of minor right-of-way exchanges and do not affect land use acreages or intensity are not subject to this provision.

OBJECTIVE A-5 FISCAL PROGRAM

Promote economic prosperity by ensuring City revenues meet expenditures and provide quality services without burdensome levels of fees or taxes.

The following policies support Objective A-5:

Policy (a): Maintain or improve existing service levels while extending services to newly-developed areas.

Policy (b): Pursue cost-saving measures while maintaining the quality of city services.

Policy (c): Maintain a fiscally balanced General Plan that will generate revenue in excess of costs by a margin of 15 percent (5 percent for long-term projection error; 5 percent for economic uncertainty, such as inflation or recession; and 5 percent for funding for rehabilitation).

Policy (d): Ensure that funding is available for the City's long-term capital improvement and maintenance needs.

Policy (e): Encourage maintenance of common areas by community associations and/or maintenance districts rather than the City.

Policy (f): Develop and maintain a diverse economic base with a variety of business types, sizes, and markets.

Policy (g): Pursue industrial and commercial uses which provide a municipal revenue surplus for capital investment and rehabilitation of facilities.

Policy (h): Require the preparation of a fiscal analysis for boundary adjustments and General Plan amendments, if necessary, to evaluate the long-term fiscal impact to the City.

Policy (i): Evaluate the relationship between projected City revenues and expenditures in conjunction with proposed land use changes.

OBJECTIVE A-6 LAND USE COMPATIBILITY

Achieve harmonious land use patterns throughout the City.

The following policies support Objective A-6:

Policy (a): Ensure, through the discretionary review process, the public health, safety, and welfare of sensitive receptors/land uses when locating such uses in close proximity to the following land uses:

- Uses which handle, generate, and/or transport hazardous substances (as defined by federal and state regulations).
- Uses which create excessive noise.
- Uses which create excessive dust.

- Uses which create other land use conflicts.

At the same time, ensure that the proposed sensitive receptors/land uses will not have an impact on the continued operation and/or expansion of the following land uses:

- Airports.
- Surface utilities.
- Off-Site hazardous waste facilities.
- Solid waste facilities.
- Manufacturing uses.
- Research and development uses.
- Mining and processing uses.
- Any land use which handles, generates, and/or transports hazardous substances as defined by federal and state regulations.

Policy (b): When a sensitive receptor land use is proposed to be established in a zoning district other than residential that allows businesses that use, store, or generate hazardous substances (i.e., most non-residential districts in the city), the project proponent of the sensitive land use shall be responsible for promoting the safety of the occupants of the site as set forth in the Zoning Ordinance.

Sensitive Receptors:

Land uses considered to be sensitive receptors include residential, schools, child care centers, acute care hospitals, and long-term health care facilities. Sensitive receptors are determined based upon special factors which may include the age of the users or occupants (e.g., children or elderly), the frequency and duration of the use or occupancy, continued exposure to hazardous substances as defined by federal and state regulations, and the user's ability to evacuate a specific site in the event of a hazardous incident.

Policy (c): Ensure, through the discretionary review process, that the siting of any land use which handles, generates, and/or transports hazardous substances, as defined by federal and state regulations, will not have a negative impact on existing sensitive receptors/land uses.

Policy (d): Work with UCI in planning its for-profit developments and University environs to ensure compatible land uses.

Policy (e): Work closely with operator(s) of existing landfill sites to minimize deleterious effects on surrounding land uses including possible impacts generated by rodent and insect populations, odors, and ground water conditions.

Policy (f): Coordinate with the county, landowners, and other cities and agencies in developing compatible land uses for areas adjacent to the City boundary.

Policy (g): In coordination with other agencies, require all significant impacts associated with the closure and reuse of MCAS El Toro and MCAS Tustin to be mitigated to a level acceptable to the City.

Policy (h): Ensure residential development proposed in the Irvine Business Complex is located in areas where adequate supporting uses and public services and facilities can be provided. Housing designed for senior citizens should be located only in areas that are within reasonable walking distance or accessible by public transportation to such facilities.

Policy (i): Ensure that sensitive uses are allowed in areas with identified hazards only if the hazard has been adequately analyzed and mitigated.

Policy (j): Residential areas and sensitive uses shall be protected from the encroachment of incompatible activities or land uses which would cause a hazard or substantial nuisance or otherwise create a negative impact upon sensitive uses or the residential living environment.

Correlation of General Plan Land Use Categories with Zoning Ordinance Districts.

The General Plan Land Use Element objectives and policies strive to obtain a balance of land uses and a high quality of development. The General Plan focuses on the long-term development of the City. Land use policies are defined and implemented through Irvine's Zoning Ordinance. The Zoning Ordinance regulates the location, type of use, and character of development. The following table illustrates the Zoning Ordinance district which correlates with each General Plan Land Use category.

General Plan/Zoning Correlation	
General Plan Category	Zoning District
Open Space	
Agriculture	1.1 Exclusive Agriculture
Preservation Area	1.4 Preservation Area
Recreation Area	1.5 Recreation Area
Water Bodies	1.6 Water Bodies
Landfill Overlay	1.7 Landfill Overlay
Golf Course Overlay	1.8 Golf Course Overlay
Residential (du/acre)	
(gross acres)	(net acres)
Estate (0 - 1)	2.1 Estate (0 - 1)
Low (0 - 5)	2.2 Low (0 - 6.5)
Medium (0 - 10)	2.3 Medium (0 - 12.5)
Med.-High (0 - 25)	2.4 Med.-High (0 - 31)
High (0 - 40)	2.5 High (0 - 50)
<u>Multi-use</u>	
Multi-use	3.1 Multi-use
<u>Commercial</u>	
Neighborhood	4.1 Neighborhood Commercial
Community	4.2 Community Commercial 4.3 Vehicle Related Commercial
Commercial Rec.	4.4 Commercial Rec.
Regional Commercial	4.5 Regional Commercial
<u>Business/Industrial</u>	
Urban/Industrial	5.1 IBC Multi-use 5.2 IBC Industrial 5.3 IBC Residential
Research/Industrial.	5.4 General Industrial 5.5 Medical & Science
<u>Institutional</u>	
Educational Facility	6.1 Institutional
Public Facilities	6.1 Institutional

OBJECTIVE A-7: URBAN DESIGN

Create a visually attractive and efficiently organized City.

The following policies support Objective A-7:

Policy (a): Conduct a comprehensive concept planning process for each planning area to prevent piecemeal and inefficient community development and to resolve area wide planning issues prior to development approval.

Policy (b): Emphasize planning areas as important community elements with diverse characteristics within a cohesive and unified city framework.

Policy (c): Implement the concept of a multiple focal point City designed to minimize congestion by conveniently locating facilities and services in each planning area.

Policy (d): Ensure that each planning area contains an internal system of trails linking schools, shopping centers, and other public facilities with residences.

Policy (e): Distinguish planning areas in character and physical appearance from each other, considering the following during design and development:

- Physical, visual separation, and differentiation.
- Physical compatibility with the local environment including topography.

- Mixture of housing types and densities.
- Range of age and income groups.
- Variety of public and private facilities.
- Activity nodes.
- Varied “skyline.”
- Functional relationship among the components of the community.
- Interface with adjacent planning areas.

Regulatory Statistical Tables

According to state law, general plans must contain standards for building intensity. The regulatory statistical tables, Table A-1 meets this requirement and relates to the amount of physical development that will be allowed in each land use category. The table defines the concentration of use for each category and provides a statement of Irvine’s long-range potential for development.

Nonregulatory Statistical Tables

Table A-2 is a nonregulatory tables which assigns acreage to each land use category identified by the Land Use Element. Table 14 contains nonregulatory population standards for each use. The terms “nonregulatory” and “gross” are defined below.

Nonregulatory: The Nonregulatory statistical tables establishes service level demands, public facility needs, and infrastructure sizing requirements based on land use intensity and population density, in relation to the projected need for land. This statistical tables represents a historical baseline for growth monitoring and identification of trends. The nonregulatory statistical tables provides the foundation for monitoring reports on the implementation of

the General Plan and is not considered part of the General Plan.

Gross Acreage: Acreage totals for the non-regulatory tables are estimates originally derived from the Land Use Element diagram using a computerized planimeter. Currently, the acreage figures are refined through the use of the Geographic Information System. As such, the acreage estimates reflect gross acre figures. The gross acre figures include rights of way, easements, and flood control rights of way, etc. Therefore, the acreage figures are not intended to be a regulatory minimum or maximum with respect to land use designations. The gross acre figure may be revised as more accurate information is obtained from subsequent development applications. The acre figure will be adjusted to conform to precise City boundaries, road alignments, slope conditions and other general plan policies and guidelines through the development monitoring program.

RELATED OBJECTIVE NUMBERS

The following objectives are related to the Land Use Element:

Circulation Element B-1 through B-7
Housing Element C-1, C-2, C-3, C-5, C-7
Seismic Element D-1, D-2
Cultural Resources Element E-1
Noise Element F-1
Public Facilities Element G-1
Integrated Waste Management H-1, H-2
Energy Element I-1
Safety Element J-1, J-2
Parks and Recreation Element K-1, K-2, K-3, K-4
Conservation Open Space Element L-1 through L-5, L-9
Growth Management Element M-6, M-7, M-8

<u>Date</u>	<u>GPA</u>	<u>Resolution Number</u>
03/09/99	18930-GA	99-29

*"The earth is given as a common for men
to labor and live in."*

Thomas Jefferson

*"I have an affection for a great city. I feel safe
in the neighborhood of man, and enjoy the sweet
security of streets."*

Longfellow

TABLE A-1 MAXIMUM INTENSITY STANDARDS BY PLANNING AREA

Planning Area Number	RESIDENTIAL					MULTI-USE ⁽¹⁾		INSTITUTIONAL ⁽¹⁾			INDUSTRIAL		Research/Industrial Sq. Ft.	Community Commercial Sq. Ft.	COMMERCIAL			MILITARY ⁽⁶⁾		NCCP BANK Dwelling Units	Maximum Dwelling Units ⁽⁷⁾⁽¹²⁾	Maximum Square Feet	Planning Area Number
	Estate 0-1 D.U.	Low 0-5 D.U.	Medium 0-10 D.U.	Med-High 0-25 D.U.	High 0-40 D.U.	0-40 D.U.	Square Feet	0-40 D.U.	Public Facility Sq. Ft.	Educational Facility Sq. Ft.	0-40 D.U.	Square Feet			Neighborhood Commercial Sq. Ft.	Regional ⁽⁵⁾ Commercial Sq. Ft.	Commercial Recreation Sq. Ft.	0-10 D.U.	Square Feet				
1 ⁽¹⁾	222	4,380	0	0	0	0	0	0	0	0	0	0	0	23,769	0	0	0	0	0	(25)	4,602	23,769	1 ⁽¹⁾
2 ⁽¹⁾	25	2,496	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	(765)	2,521	0	2 ⁽¹⁾
3 ⁽¹⁾	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3 ⁽¹⁾
4 ⁽¹²⁾⁽¹³⁾	0	0	6,150	3,240	0	150	0	0	4,380	490,050	0	0	1,350,000	136,000	0	854,000	0	0	0	0	8,000	2,834,430	4 ⁽¹²⁾⁽¹³⁾
5	0	853	670	1,362	0	0	0	0	0	0	0	0	0	0	150,000	0	0	0	0	0	2,885	150,000	5
6 ⁽¹⁾	263	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	(178)	263	0	6 ⁽¹⁾
8	0	1,637	4,731	1,888	449	0	0	0	0	188,174	0	0	0	829,400	285,200	0	0	0	0	0	8,705	1,302,774	8
9 ⁽¹⁾	0	0	0	0	0	0	0	0	0	0	0	0	4,385,184	0	0	0	0	0	0	0	4,385,184	0	9 ⁽¹⁾
10	0	0	2,430	1,325	0	300	119,850	0	0	39,950	0	0	2,822,921	813,608	73,661	0	0	0	0	0	4,055	3,869,990	10
11	0	0	4,516	3,169	0	0	0	0	206,281	367,580	0	0	0	490,214	35,885	0	0	0	0	0	7,685	1,119,960	11
12 ⁽⁴⁾	0	0	600	3,712	500	350	470,000	0	194,440	150,000	0	0	2,871,081	967,000	150,000	0	0	0	0	0	5,162	4,802,521	12 ⁽⁴⁾
13	0	0	0	0	0	0	0	0	1,585,263	0	0	0	5,734,893	0	0	0	0	0	0	0	0	5,734,893	13
14	0	870	1,065	3,725	0	0	0	0	227,322	91,313	0	0	0	596,094	179,906	0	0	0	0	0	5,660	1,094,635	14
15	0	0	8,710	2,791	615	350	198,539	0	321,079	521,370	0	0	0	0	372,067	224,413	0	0	0	0	12,475	1,937,463	15
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16
17 ⁽⁹⁾	0	0	1,680	330	0	0	0	0	0	0	0	0	910,000	300,000	0	0	0	0	0	0	2,830	1,210,000	17
18 ⁽⁹⁾	0	0	200	550	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	750	0	18
19	0	0	0	2835	0	0	0	0	9374	0	0	0	0	96890	0	0	197,500	0	0	0	2835	303,764	19
20	0	465	2,460	850	0	0	0	0	36,936	155,078	0	0	0	0	173,542	0	0	0	0	0	3,775	365,556	20
21	0	3,923	120	1,005	0	330	30,000	538,921	0	0	0	0	0	0	0	0	0	0	0	0	5,378	568,921	21
22 ⁽⁹⁾	0	400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	(2,920)	400	0	22
23	0	0	0	0	1,000	0	0	40	112,230	0	0	0	0	0	0	0	0	0	0	0	1,840	112,230	23
24	0	0	0	2,889	0	0	654,000	0	25,850	0	0	0	0	0	68,953	0	0	0	0	0	2,889	748,803	24
25 ⁽¹⁶⁾	0	0	0	0	0	0	0	0	0	0	0	0	1,436,170	0	0	0	0	0	0	0	0	1,436,170	25
27 ⁽⁹⁾⁽¹⁶⁾	0	0	975	1,180	0	0	0	0	210,740	0	0	0	0	0	0	0	0	0	0	(345)	2,155	210,740	27
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28
29	0	0	0	0	0	0	0	300	0	761,000	0	0	0	0	0	0	0	0	0	0	300	761,000	29
30 ⁽¹⁰⁾	0	0	0	0	0	0	0	0	0	0	0	0	1,190,059	573,093	0	2,671,878	328,006	0	0	0	0	4,763,036	30
31	0	0	0	0	0	0	0	0	350,370	0	0	0	4,700,000	128,912	0	0	0	0	0	0	0	5,179,282	31
32	0	0	0	0	0	0	0	0	0	0	0	0	4,355,127	1,398,947	0	0	0	0	0	0	0	5,754,074	32
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9,902,980	0	0	0	0	0	9,902,980	33
34	0	0	0	0	0	0	0	0	0	0	0	0	6,743,300	1,324,430	0	0	0	0	0	0	0	8,067,730	34
35	0	0	0	0	0	0	0	0	62,101	0	0	0	12,815,738	1,010,583	0	0	0	0	0	0	0	13,888,422	35
36	0	0	0	0	0	0	0	0	0	0	0	0	3,896	55,917,660	0	0	0	0	0	0	3,896	55,917,660	36
38	0	896	3,374	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,253	0	0	5,523	0	38
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	39
50 ⁽¹¹⁾	0	0	0	0	0	0	0	9,500	0	9,810,293	0	0	0	0	0	0	58,450	0	0	0	9,500	9,868,743	50 ⁽¹¹⁾
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5,252	5,888,000	0	5,252	5,888,000	51
Unallocated	0	0	0	0	0	0	0	0	0	0	0	0	0	0	60,000	0	0	0	0	4,233	0	60,000	Unallocated
TOTAL	510	15,024	35,203	34,245	2,564	1,159	1,442,389	10,170	3,376,366	13,113,729	3,896	55,917,660	49,314,473	9,361,007	1,421,560	13,428,858	583,956	6,505	5,888,000	4,233	107,736	153,847,998	

TABLE A-1 MAXIMUM INTENSITY STANDARDS BY PLANNING AREA- DETACHED LANDS

Planning Area Number	RESIDENTIAL					MULTI-USE ⁽¹⁾		INSTITUTIONAL ⁽¹⁾			INDUSTRIAL		Research/Industrial Sq. Ft.	Community Commercial Sq. Ft.	COMMERCIAL			MILITARY ⁽⁶⁾		NCCP BANK Dwelling Units	Maximum Dwelling Units ⁽⁷⁾⁽¹²⁾	Maximum Square Feet	Planning Area Number
	Estate 0-1 D.U.	Low 0-5 D.U.	Medium 0-10 D.U.	Med-High 0-25 D.U.	High 0-40 D.U.	0-40 D.U.	Square Feet	0-40 D.U.	Public Facility Sq. Ft.	Educational Facility Sq. Ft.	0-40 D.U.	Square Feet			Neighborhood Commercial Sq. Ft.	Regional ⁽⁵⁾ Commercial Sq. Ft.	Commercial Recreation Sq. Ft.	0-10 D.U.	Square Feet				
26 ⁽⁹⁾	0	0	420	1,580	0	800	405,100	0	0	46,487	0	0	0	110,000	0	0	0	0	0	0	2800	561,587	26 ⁽⁹⁾
27 ⁽¹⁶⁾	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27 ⁽¹⁶⁾
TOTAL	0	0	420	1,580	0	800	405,100	0	0	46,487	0	0	0	110,000	0	0	0	0	0	0	2,800	561,587	0

TABLE A-1
MAXIMUM INTENSITY STANDARDS BY PLANNING AREA
GENERAL PLAN FOOTNOTES

1. For planning areas not yet annexed, land use authority and related regulatory activities are controlled by the County of Orange. Dwelling units and square footage totals may not reflect the Orange County General Plan.
2. This designation allows a variety of land uses, including the high density residential category.
3. Refer to Objective A-4, Policy (a) for additional institutional category requirements. Within each planning area, actual intensity is regulated by the appropriate agencies involved. The development intensity for institutional uses is in addition to the development intensity allowed in the adopted land use category.
4. This designation provides for a variety of land uses and is based upon 63,346 AM (peak hour), 76,035 PM (peak hour) and 811,296 ADT as the maximum intensity regulating factor (refer to the IBC data base), with the exception of Planning Area 4.
5. This designation provides for a variety of land uses which are regulated by the Irvine Center Development Agreement for PA 30 & 33. The development intensity is derived from the Irvine Center Development Agreement adopted August, 1993. The development intensity for PA 30 & 33 was determined by converting the allowable points (6,300) to gross leaseable square feet and then multiplying by 1.15 to achieve a gross floor area. As such, the Irvine Center Development Agreement is estimated to allow approximately 8,388,980 square feet of gross floor area. An additional 1,514,000 square feet of gross floor area is permitted subject to the Zoning Ordinance. The actual development intensity within PA 30 & 33 may exceed these estimates subject to the traffic provisions contained in the Development Agreement. Within Planning Area 4, this designation provides for a variety of land uses as provided by the Lower Peters Canyon Development Agreement.
6. Land use authority and related regulatory activities are controlled by the U.S. Dept. of Defense. Dwelling units and square footage totals were obtained from the Marine Corps Community Plans and Liaison Department. The total square footage reflects non-residential structures and is an estimate.
7. The permitted range of dwelling units (low-high) may be less than that allowed by the available acreage. The residential intensity ranges are based on estimated gross figures and may be adjusted through technical refinements to reflect more accurate information at subsequent planning levels.
8. Within Planning Area 12, the multi-use designation allows medium high or high density residential use.

9. On September 26, 1988, the "Memorandum of Understanding Implementing Initiative Resolution 88-1" was approved, establishing a 10,600 dwelling unit cap for Planning Areas 17, 18, 22, 26 and 27. In addition, the Memorandum permits up to 800 dwelling units in lieu of commercial in Planning Area 26, for an overall cap of up to 11,400 dwelling units.
10. An 85,000 seat stadium/arena is allowed in Planning Area 30 in addition to the square footage shown.
11. The University of California controls land use authority and related regulatory activities. Dwelling unit totals are based on the University's Long Range Development Plan.
12. Total residential Dwelling Units within Planning Area 4 shall not exceed 8,000.
13. Residential uses within Sector 11 of Planning Area 4 shall not exceed 2,830 ADT unless additional environmental documentation ensures traffic mitigation.
14. Natural Communities Conservation Program [NCCP] Facilitation Agreement [Approved 7-24-96]. These units can be located anywhere in the City upon mutual agreement of The Irvine Company and the City.
15. Derived from Planning Area 22 Zone Change [16868-ZC]. May be reallocated subject to conclusion of Commercial Needs Study as identified in Zoning Ordinance Section V.E-827.6.1

TABLE A-2 MAXIMUM INTENSITY STANDARDS: LAND USE ACREAGE BY PLANNING AREA

Planning Area Number	CONSERVATION/OPEN SPACE				RESIDENTIAL					MULTI-USE	COMMERCIAL				INDUSTRIAL		INSTITUTIONAL		MILITARY	Total Acres	Planning Area Number
	Agriculture	Preservation	Recreation	Water Bodies	Estate Res.	Low Res.	Med. Res.	Med.-High Res.	High Res.		Neighborhood	Community	Commercial Recreation	Regional	Urban Industrial	Research/Industrial	Educational Facilities	Public Facilities			
1	0	547	0	0	828	737	0	0	0	0	0	17	0	0	0	0	0	0	0	2,129	1
2	0	606	102	76	29	412	0	0	0	0	0	0	0	0	0	0	42	0	0	1,267	2
3 ⁽²⁾	0	3,068	730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,798	3 ⁽²⁾
4 ⁽¹⁰⁾	0	0	10	0	0	920	168	0	0	48	0	23	0	106	0	136	11	0	0	1,422	4 ⁽¹⁰⁾
5 ⁽¹⁾	289	0	23	0	0	201	109	66	0	0	17	0	0	0	0	0	30	0	0	735	5 ⁽¹⁾
6	1,110	175	188	32	895	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,400	6
8	85	0	33	0	0	244	764	162	41	0	46	86	0	0	0	0	52	0	0	1,513	8
9	1,684	0	107	0	0	0	0	0	0	0	0	0	0	0	0	293	0	20	0	2,084	9
10 ⁽¹⁾	0	0	70	0	0	0	413	18	0	24	9	95	0	0	0	152	9	0	0	790	10 ⁽¹⁾
11	0	0	113	0	0	0	570	303	0	0	7	56	0	0	0	0	109	1	0	1,139	11
12	0	0	227	0	0	0	59	145	116	56	7	129	0	0	0	181	133	0	0	1,053	12
13	0	0	78	0	0	0	0	0	0	0	0	0	0	0	0	252	0	0	0	330	13
14	0	0	126	0	0	168	188	246	0	0	20	76	0	0	0	0	19	15	0	858	14
15	0	0	128	56	0	0	1,223	54	39	39	0	85	0	0	0	0	120	0	0	2,744	15
16	0	585	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	619	16
17	0	227	150	0	0	0	335	39	0	0	20	20	0	0	0	142	0	0	0	813	17
18	0	416	0	0	0	0	41	143	0	0	0	0	0	0	0	0	0	0	0	600	18
19	0	0	176	0	0	0	0	137	0	0	0	18	22	0	0	0	0	0	0	373	19
20	0	0	19	0	0	93	296	114	0	0	22	0	0	0	0	0	48	0	0	592	20
21	0	0	691	45	0	917	11	62	0	0	0	0	0	0	0	0	140	0	0	1,866	21
22 ⁽³⁾	0	0	0	0	1,046	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,046	22 ⁽³⁾
23	0	2,215	163	0	0	0	0	0	27	0	0	0	0	0	0	0	16	97	0	4,418	23
24	0	0	105	0	0	0	0	211	0	30	13	0	0	0	0	0	0	0	0	359	24
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	133	0	0	0	133	25
27 ⁽⁴⁾	0	431	0	0	0	39	468	144	0	0	0	0	0	0	0	0	12	0	0	1,094	27 ⁽⁴⁾
28	0	2,357	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,357	28
29 ⁽⁵⁾	0	220	102	0	0	0	0	0	0	0	0	0	0	0	0	0	73	0	0	395	29 ⁽⁵⁾
30	0	0	0	0	0	0	0	0	0	0	58	0	25	180	0	68	0	0	0	331	30
31	0	0	0	0	0	0	0	0	0	0	0	36	0	0	0	377	0	35	0	448	31
32	0	0	0	0	0	0	0	0	0	0	0	82	0	0	0	370	0	0	0	452	32
33	0	10	0	0	0	0	0	0	0	0	0	0	0	456	0	0	0	0	0	466	33
34	0	0	0	0	0	0	0	0	0	0	0	94	0	0	0	434	0	0	0	528	34
35	0	0	0	0	0	0	0	0	0	0	0	116	0	0	0	950	112	0	0	1,178	35
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,667	0	0	0	0	2,667	36
38 ⁽¹⁾	0	0	61	0	0	0	176	152	0	0	0	0	0	0	0	0	0	0	102	491	38 ⁽¹⁾
39	0	62	0	20	0	0	0	0	0	0	0	0	479	0	0	0	0	0	0	561	39
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,348	0	0	1,348	50
51	426	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,933	4,359	51
TOTAL	3,594	8,764	2,836	186	2,798	2,811	5,387	1,904	223	160	199	910	526	742	2,667	3,488	2,274	148	4,035	43,652	

TABLE A-2 MAXIMUM INTENSITY STANDARDS: LAND USE ACREAGE BY PLANNING AREA - DETACHED LANDS

Planning Area Number	CONSERVATION/OPEN SPACE				RESIDENTIAL					MULTI-USE	COMMERCIAL				INDUSTRIAL		INSTITUTIONAL		MILITARY	Total Acres	Planning Area Number
	Agriculture	Preservation	Recreation	Water Bodies	Estate Res.	Low Res.	Med. Res.	Med.-High Res.	High Res.		Neighborhood	Community	Commercial Recreation	Regional	Urban Industrial	Research/Industrial	Educational Facilities	Public Facilities			
26	0	155	400	43	0	0	186	280	0	37	0	23	0	0	0	0	0	0	0	1,124	26
27 ⁽⁴⁾	0	85	58	0	0	75	6	61	0	0	0	0	0	0	0	0	0	5	0	290	27 ⁽⁴⁾
TOTAL	0	240	458	43	0	75	192	341	0	37	0	23	0	0	0	0	0	5	0	1,414	26

TABLE A-2
MAXIMUM INTENSITY STANDARDS:
LAND USE ACREAGE BY PLANNING AREA
GENERAL PLAN FOOTNOTES

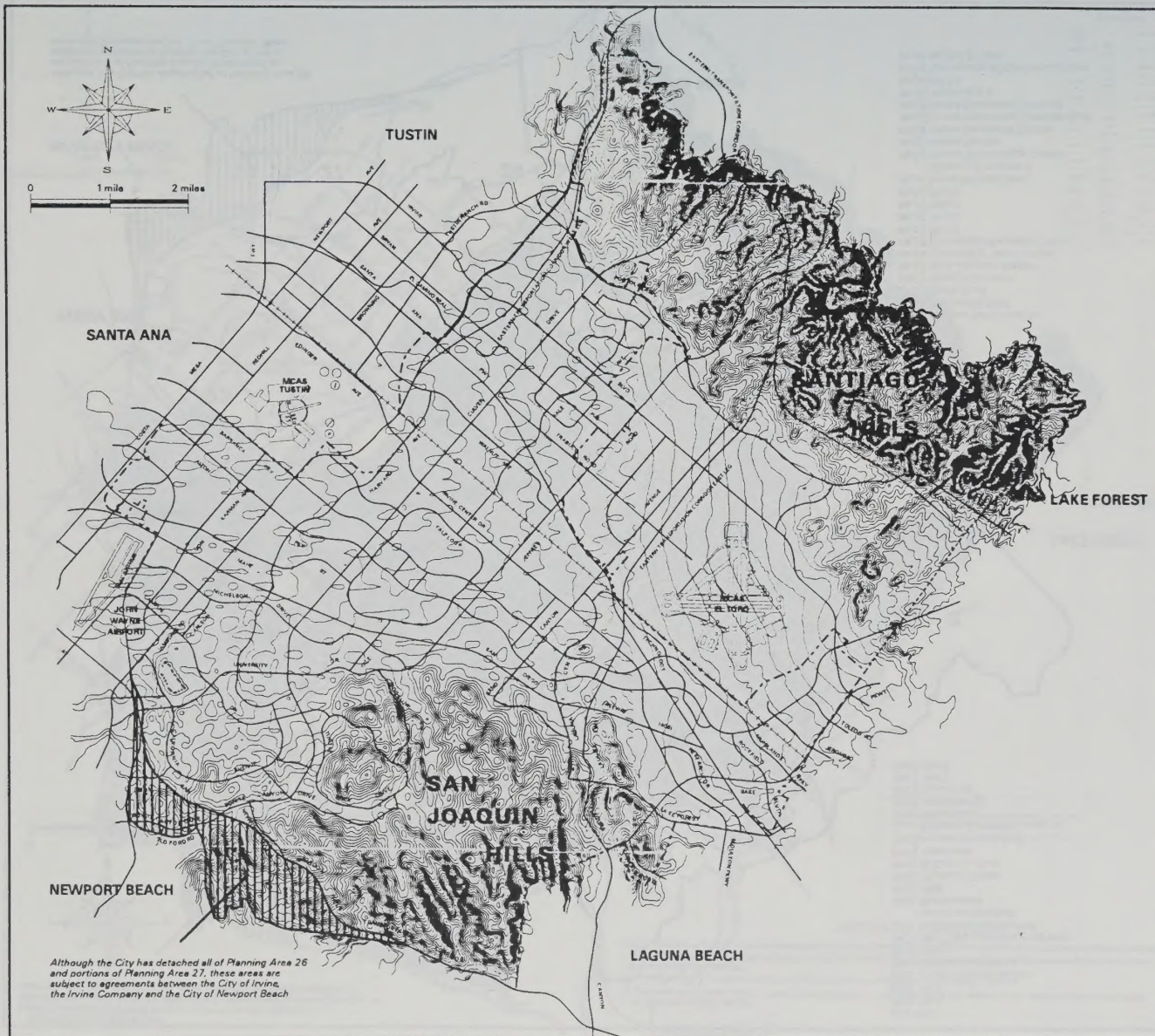
1. Community Parks and some open space spines located within Recreation land use category in Planning Areas 4,5,10, and 38 are conceptual. Unless specified in the Conservation and Open Space Element or the park code, the size of the open space spines or Community Parks will be determined concurrent with subsequent development applications.
2. Planning Area 3 includes a 730 acre Landfill overlay on the Recreational land use designation.
3. Planning Area 22 includes a 620 acre Golf Course overlay on the Residential land use designation.
4. Planning Area 27 includes a 58 acre Landfill overlay on the Recreational land use designation.
5. Planning Area 29 includes a 33 acre Landfill overlay on the Recreational land use designation.
6. Institutional acreage within Planning Area 4 represents a goal, not a requirement. Per the Lower Peters Canyon Development Agreement, institutional uses for Planning Area 4 include: public & private schools; churches; libraries; post offices; police stations; fire facilities; day care centers; utilities; public facilities; hospitals; government offices; educational facilities; non-profit housing, and institutional residential.

TABLE A-3
NON-REGULATORY POPULATION STANDARDS
BY LAND USE ELEMENT CATEGORY

<u>LAND USE CATEGORY</u>	<u>EMPLOYEES PER THOUSAND SQ FT</u>	<u>EMPLOYEES PER STUDENT</u>
<u>Military</u> ^{1, 2}	2.0	0
<u>Multi-Use</u> ^{1, 2}	2.0	0
<u>Industrial</u> ^{1, 2}		
Research Industrial	1.9	0
Urban/Industrial	1.9	0
<u>Commercial</u> ¹		
Neighborhood	2.0	0
Community	2.0	0
Regional	2.0	0
Commercial Recreation	2.0	0
Educational Facilities	2.0	.05
Public Facilities	2.0	0
<u>Residential</u> ^{1 2}		
	<u>Residents Per D.U</u>	<u>Residents Per Acre</u>
Estate	3.25	0 - 1
Low	2.95	1 - 15
Medium	2.60	11 - 22
Medium-High	2.13	21 - 53
High	1.36	51 - 81
Military	2.60	11-22
Multi-use	1.36	51 - 81
Private College	1.36	51 - 81

¹ Employment ratios for Land Use Element categories allowing non-residential uses are correlated to Land Use Element non-residential building intensity standards (sq. ft.). Employment ratios are consistent with the 1992 Trip Reduction Ordinance (TRO).

² Population ratios for Land Use Element categories allowing residential uses are correlated to Land Use Element residential building intensity standards (du/ac). The population estimates are based on the 1990 Federal Census and data updated from the State Department of Finance. Additionally, the population estimates have been adjusted based on appropriate data from the Irvine Unified School District.



City of Irvine General Plan



Figure A-1

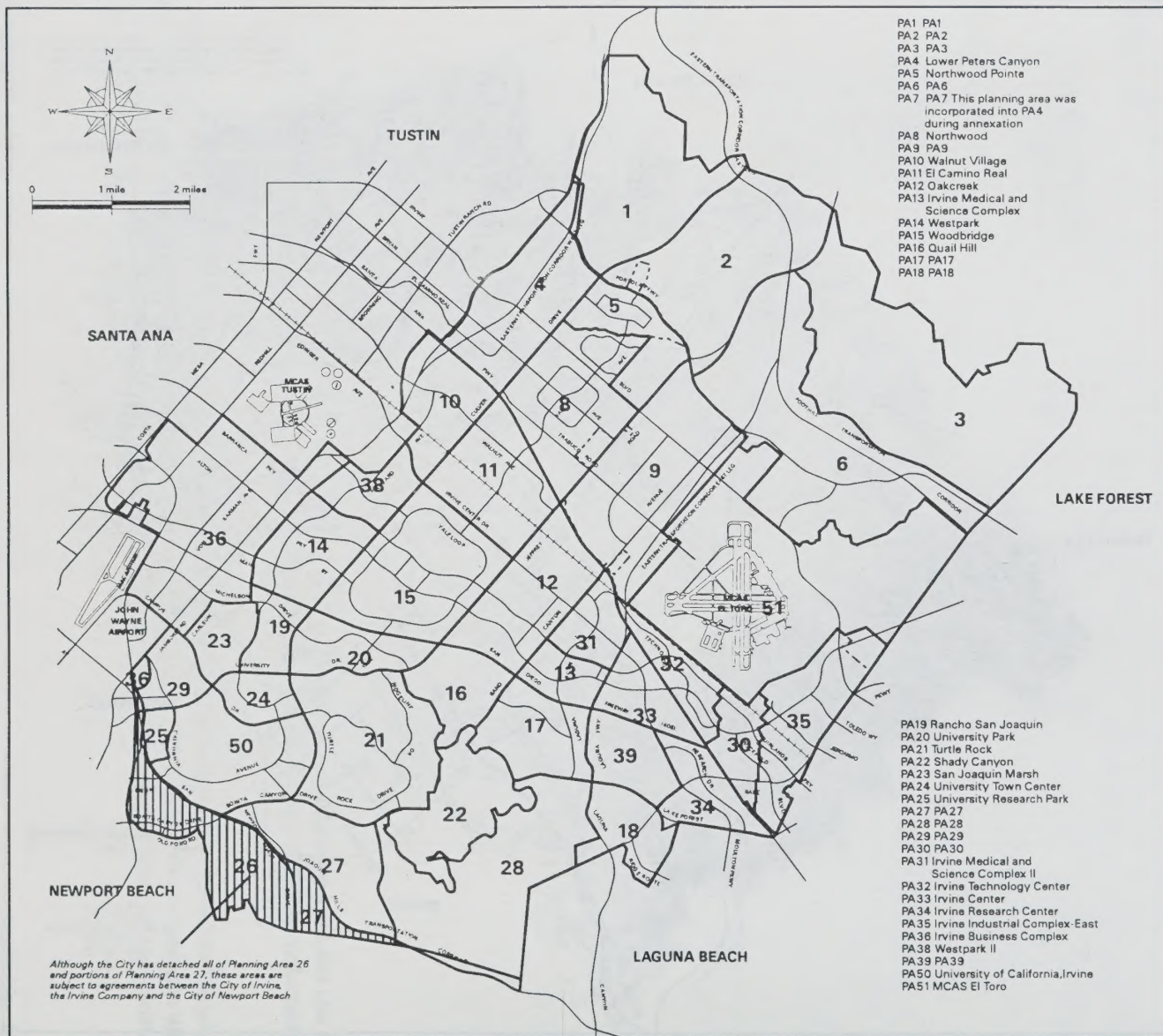
VICINITY MAP

LEGEND

- City Sphere of Influence
- City Boundary

Date
Adopted: 3/9/99

City Council
Resolution: 99-29



City of Irvine General Plan



Figure A-2

PLANNING AREAS

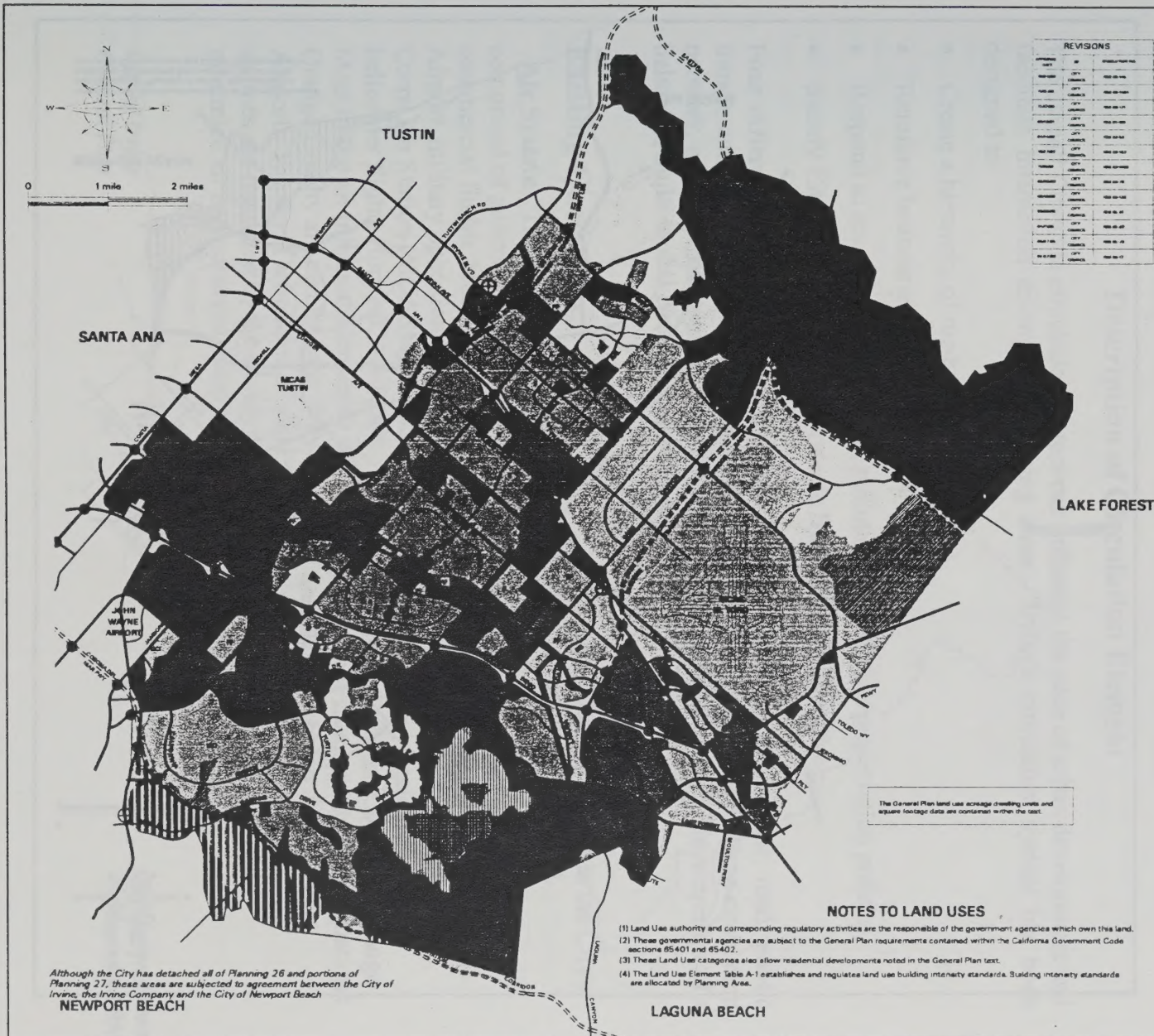
LEGEND

- City Boundary
- Planning Area Boundary

NOTE: Unshaded area is City
& Sphere of Influence

Date
Adopted: 3/9/99

City Council
Resolution: 99-29



City of Irvine General Plan



Figure A-3

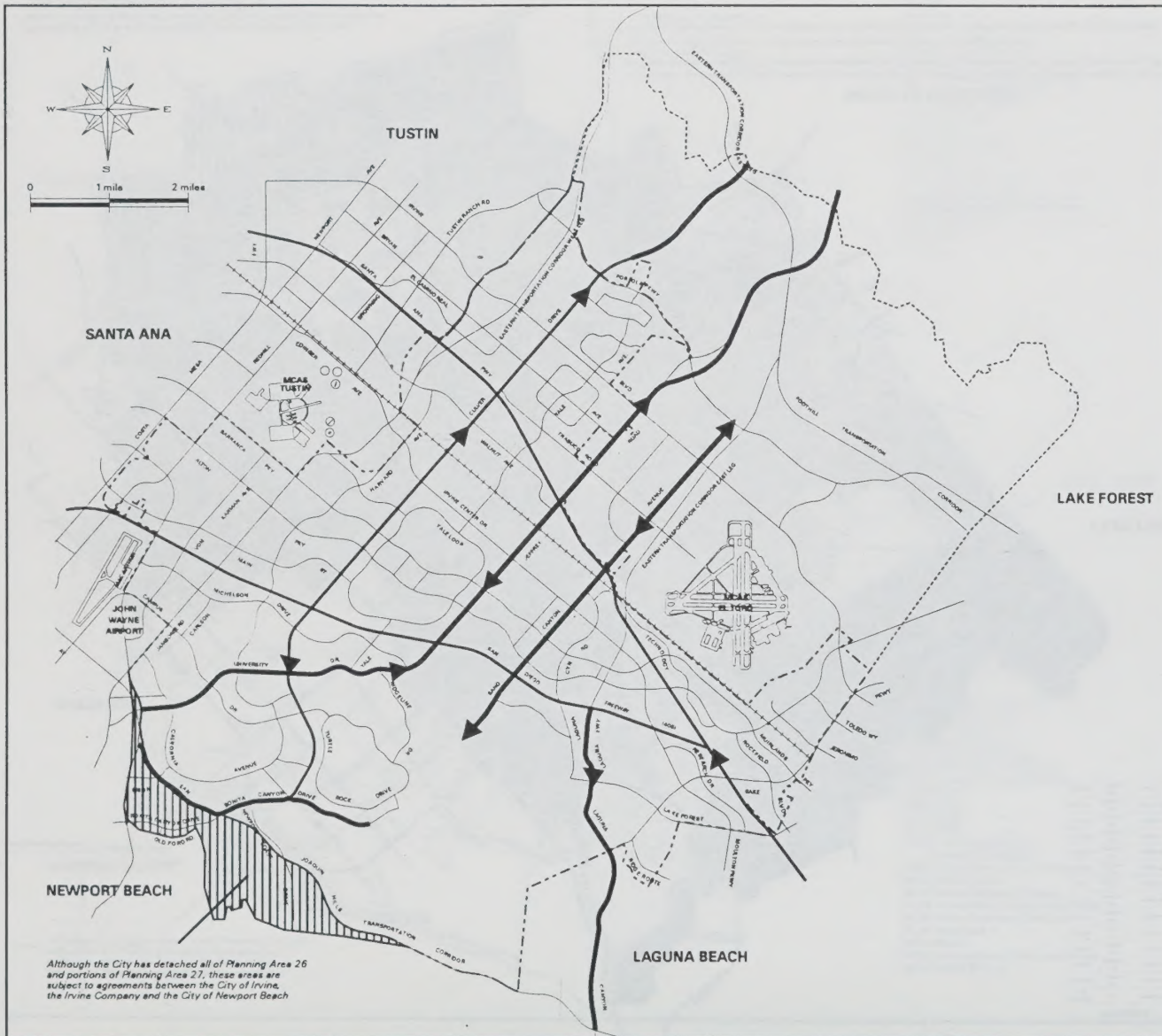
LAND USE

LEGEND

- City Sphere of Influence
- City Boundary
- CONSERVATIVE OPEN SPACE**
 - Recreation
 - Preservation
 - Water Bodies
 - Agriculture
 - Golf Course Overlay
 - Landfill Overlay
 - NCCP Reserve
 - NCCP Special Linkage
- MILITARY**
 - MULTI USE
- COMMERCIAL**
 - Neighborhood Commercial
 - Community Commercial
 - Regional Commercial
 - Commercial Recreation
- RESIDENTIAL**
 - Estate
 - Low Density
 - Medium Density
 - Medium-High Density
 - High Density
- BUSINESS/INDUSTRIAL**
 - Research and Industrial
 - Urban and Industrial
- INSTITUTIONAL**
 - Educational Facilities
 - Public Facilities
- Historic Resources
- Waste Facility
- Freeway
- Transportation Corridor
- Expressway
- Major Highway 8-Lanes
- Major Highway 6-Lanes
- Interchange
- Commuter
- Railroad
- Primary Highway
- Secondary Highway

Date
Adopted: 3/9/99

City Council
Resolution: 99-29



City of Irvine General Plan



Figure A-4

SCENIC HIGHWAYS

LEGEND

- City Sphere of Influence
- City Boundary
- Urban Character
- Rural or Natural Character
- ▲ Major view

Date
Adopted: 3/9/99

City Council
Resolution: 99-29

ELEMENT B **CIRCULATION**

GOAL: Provide a balanced transportation system.

Description of Circulation Element

The overall Citywide circulation system can influence the pace of urban development and facilitate interaction among the planning areas. Irvine's circulation system has been designed to:

- Create a hierarchy of roadways.
- Reinforce boundaries of planning areas.
- Respond to conservation, noise, air pollution, and wildlife preservation policies.
- Satisfy City General Plan and Strategic Business Plan objectives.

Four different types of systems compose Irvine's circulation system: air, road, public transit, and trails. This element describes the nature and extent of the existing circulation network, and identifies trends, issues, and public policies relating to the development of a balanced, multi-modal circulation system for Irvine.

Existing Conditions

Air System. The air system is comprised of general aviation and commercial flights from John Wayne Airport, military operations from Marine Corps Air Station (MCAS) El Toro, and helicopter flights from MCAS Tustin. Most of the air transportation needs of Orange County are met by John Wayne Airport. The flight schedules of local airlines are regulated by the county to minimize air and noise pollution impacts.

MCAS El Toro is located in the City's sphere of influence (P.A. 51).

Road System. The City's arterial roadway system is shown on Figure B-1 and B-2. Figure B-1 illustrates the arterial highway designation for roadways. Both the County of Orange and City of Irvine roadway designations are identified below for reference.

Arterial Highways (Figure B-1)

Figure B-1 designates the type of roadway facility, which is defined primarily by the number of lanes within the roadway. The facility classifications contained in Figure B-1 are defined as follows:

- Freeway: A divided state highway with access restricted to grade separated interchanges. Freeways provide for movement of high volumes of intercity traffic.
- Transportation Corridor: A multi-modal facility with restricted access having a median of sufficient width to be utilized for fixed rail or high occupancy vehicle lanes, in addition to general purpose lanes. Transportation Corridors provide for movement of intercity traffic.
- Expressway: A divided high-flow arterial highway with three or more lanes in each direction and grade-separated intersections and/or access ramps (Jamboree Road is the only designated expressway).
- Major Highway: A divided arterial highway of six to eight through lanes. Major highways provide for the movement of traffic between planning areas and/or the distribution of traffic to and from freeways or transportation corridors.
- Primary Highway: A divided arterial highway of four through lanes. Primary highways provide for the movement of traffic between planning

areas, the movement of traffic to and from activity centers within planning areas; and/or the distribution of traffic to and from freeways or transportation corridors.

- Secondary Highway: An undivided arterial highway of four through lanes. Secondary highways provide for the movement of traffic between planning areas and/or the movement of traffic to and from activity centers within planning areas.
- Commuter Highway: A two-lane undivided highway which functions primarily as a collector facility which has the ability to handle through traffic movements between arterials. It is shown on the Master Plan of Arterial Highways (MPAH) because it provides network continuity, or may serve through traffic demand where projected volumes do not warrant a secondary.

Operational Characteristics Plan (Figure B-2)

Figure B-2 designates the operational characteristics of streets. It addresses specific characteristics of streets in Irvine, including restricted access, parking prohibitions, and the types of traffic utilizing the street. The functional operational classifications contained in Figure B-2 are defined as follows:

- Freeway: See County of Orange definition.
- Transportation Corridor: See County of Orange definition.

- **Thruway:** A relatively high speed arterial highway with restricted access supplementing the freeway system and carrying intermediate range trips to or between major nonresidential land uses. A thruway has emergency parking only, and minimal pedestrian interference with traffic.
- **Parkway:** A moderate speed arterial highway abutting and distributing trips to a variety of land uses. This facility primarily serves short-range trips and is a significant urban design element as it borders the activity corridor. A parkway has emergency parking only and will have considerable parallel and perpendicular pedestrian movement.
- **Community Collector:** A medium speed highway abutting similar land uses. The primary function is to collect and distribute trips within a hierarchy of roads and, secondarily, to carry short trips between adjacent neighborhoods. A community collector has emergency parking only and has a significant amount of parallel and perpendicular pedestrian traffic. Two-lane undivided roadways that exclusively provide for the collection or distribution of local traffic are defined as local roadways and are not shown in Figure B-1.
- **Local Street:** A low speed, low volume roadway primarily for access to residential, business, and other abutting properties. A local street may have parking and a significant amount of parallel and perpendicular pedestrian traffic.

Public Transit System. The public transit system is designed to serve regional and local travel needs. Interstate bus systems operate primarily along the Santa Ana and San Diego Freeways, with most having no stops in the City. Orange County Transportation Authority (OCTA) provides bus service to major destinations within Irvine and surrounding communities. Amtrak and Metrolink trains operate on the Los Angeles to San Diego (LOSSAN) Railroad right of way through the City. Existing stations are located in Irvine, San Juan Capistrano, Anaheim, Fullerton and Santa Ana. Opportunities exist to expand Irvine's public transit system.

The public transit system is comprised of four hierarchical transit corridors as described on the following page and depicted on Figure B-3.

- **Regional Transit Corridors:** Transit corridors are implemented by the Orange County Transportation Authority or other regional transit agencies, and are envisioned to be serviced by an at-grade, line-haul transit facility.
- **Intercity Public Transit Corridors:** Secondary transit corridors provide connections between Irvine and other destinations serving both inter- and intracity traffic. The corridors are envisioned to be served predominantly by rubber-tired vehicles (i.e., bus, tram). Alternative improvements such as exclusive lanes for high occupancy vehicles (HOV lanes) may also be utilized.

- **Intracity Public Transit Corridors:** Local public transit corridors serve planning areas, providing a feeder system to the intercity and regional transit corridors. The systems envisioned to serve the corridors are low volume transit facilities (i.e., bus, tram, people mover, dial-a-ride) operating within the available public right of way.
- **Intra-City Advanced Transit Corridor:** Corridors connect to the regional transit corridors to serve both inter- and intracity travel needs. The corridors entail the maximum usage of overlapping or multipurpose right of ways, including primarily the flood control right of ways, as well as utility easements, planning area edge buffers, arterial parkways, safety lanes, or similar open space areas, as appropriate to preserve the opportunity for implementing a future advanced transit system. This system is envisioned to be served by an elevated, grade-separated transit facility.

Trail System. The trail system is comprised of a single equestrian trail and numerous biking and hiking trails. These trails provide recreational and commuter opportunities. Bicycle trails have been developed along the majority of designated trails, connecting the developed areas of the City. The trail systems are illustrated on Figure B-4. A master plan for the hiking and equestrian trails was adopted by the City in 1989 which includes concepts for trail surfaces, signage, landscaping and fencing.

Trends

As the City matures, the City must coordinate the pace of development with the circulation systems. Planned roadway capacities may be exceeded if development continues without effective transportation demand measures, and coordination of alternative transit systems. As such, circulation improvements must be planned to keep pace with development.

Air System. Increasing commercial passenger demand in Orange County will probably not be totally accommodated at John Wayne Airport due to numerous environmental and political constraints. The number of daily departures from John Wayne Airport is limited by a settlement agreement negotiated between the County of Orange, the City of Newport Beach (which lies under the flight path of aircraft taking off from the airport), the Airport Working Group, and Stop Polluting Our Newport. This agreement caps the annual number of passengers at 8.4 million, until its expiration in 2005. It is expected that upon expiration of the agreement there will be opposition to more intensive use of John Wayne Airport. However, due to increases in population, passenger demand is expected to increase in Orange County. MCAS-El Toro and MCAS Tustin are both scheduled for closure by 1999. As a result, reuse plans for both bases are currently being developed. Although Irvine is not the lead agency, the City is reviewing these plans.

Objective B-7, Air Transportation System, and its related policies are intended to protect the City as demand for air

transportation increases and new land use plans for the closing military bases are adopted.

Road System. The City must plan for a doubling of its residential population and tripling of its employment population. As such, jobs-to-housing relationships will play an important part in understanding circulation impacts from development. Due to the large capital outlay already spent and future outlay anticipated, it can be assumed that the automobile will continue to be an important transportation mode. Recognizing the role of the automobile, the City, correlates the circulation network (Figure B-1) with General Plan land use through its planning efforts, (Table A-1). The City utilizes a computer traffic model to assist in analyzing proposed land use changes. In order to ensure the proper use of the model, the City reviews and updates the land use assumptions, traffic generation rates and other factors utilized in the computer model. Transportation demand management measures (i.e., ride sharing, flexible work hours, telecommuting, etc.) are significant tools to reduce vehicular demand rather than increasing system capacity and are closely coordinated with the City's computer model.

Public Transit. Public transit should become an increasingly viable transportation mode as operating costs for private autos increase, roadway congestion increases, and lack of accessibility to private autos for certain groups (i.e., elderly, handicapped, low income) increases. While public transit

may never supplant the automobile as the primary mode of transportation, its implementation and use will help alleviate street congestion, as well as provide a more economical means of transportation.

Trail System. It is expected that bicycle/pedestrian trails will continue to be developed concurrent with adjacent development. The hiking and equestrian trails will also be developed as the City grows.

Identification of Issues

1. How can the City plan for a vehicular circulation system which accommodates both local and regional land use and circulation needs?
2. How can the City reduce, eliminate, or mitigate negative environmental impacts of the circulation system?
3. How can the City encourage the use of a more balanced multi-modal circulation system?
4. How can the City preserve opportunities for future advanced rapid transit systems?
5. How can the City maximize the positive attributes of the existing air facilities within and adjacent to the City, while minimizing the negative or potentially negative impacts?
6. To provide adequate circulation capacity, the City should maintain a functional mix of land uses and an adequate relationship between housing and employment opportunities. How can the City provide an adequate jobs-to-housing balance?
7. How can the City enhance alternative transit modes?

Response to Issues

The following objectives, and policies have been formulated as policy to respond to circulation issues.

OBJECTIVE B-1: ROADWAY DEVELOPMENT

Plan, provide and maintain an integrated vehicular circulation system to accommodate projected local and regional needs.

The following policies support Objective B-1:

Policy (a): Use the Circulation, Land Use and Growth Management Elements to determine roadway sizing and phasing.

Policy (b): Use Figure B-1, Master Plan of Arterial Highways, for the purpose of detailed planning of the circulation network.

Policy (c): Develop, on an incremental basis, a vehicular circulation system responding to local and regional access requirements. The following Level of Service (LOS) Standards shall be the goal applied to arterial highways, as shown in Figure B-1, which are in the City of Irvine or its sphere of influence, and which are under the City's jurisdiction.

LOS "E" or better shall be considered acceptable within the Irvine Business Complex (IBC-PA 36) and Irvine Center (PA 33).

LOS "D" or better shall be considered acceptable within all other areas.

Policy (d): Evaluate the incremental additions to the roadway system through use of the City transportation model.

Policy (e): Cooperate with state, county, and local governments to assure orderly development.

Policy (f): Work with the county, landowners, and other agencies in developing compatible land use and circulation plans for the area northerly of the sphere of influence, recognizing that new development in this area can have a significant impact on the existing City circulation system.

Policy (g): Coordinate with state, county and local agencies to plan and construct public utilities to prevent impact on complete or planned roadways.

Policy (h): Monitor major land use and transportation planning issues in southeast Orange County for impacts on major transportation facilities in Irvine. The Development Monitoring program shall identify a list of intersections that do not meet the General Plan level of service standards for intersection capacity. The City shall monitor and coordinate with the county in developing mitigation measures.

Policy (i): Actively lobby with appropriate state commissions, committees, and legislators for funding to upgrade the Costa Mesa, San Diego and Santa Ana Freeways.

Policy (j): Support programs to increase the vehicle occupancy rate.

Policy (k): Study arterial links listed in this policy to determine that the proposed augmentations, if necessary, are adequate to accommodate traffic demand at buildout of the General Plan. As part of any evaluation of an arterial augmentation proposal, travel demand reduction measures shall also be analyzed to determine if they can be implemented in lieu of augmentation. Arterial augmentations include improvements to signal timing or coordination, additional intersection through or turn lanes, auxiliary lanes, intersection grade separations, and eight lane major highways.¹ Augmentation proposals, other than those that are operational in nature (e.g. signal timing, signal coordination and minor restriping), shall be evaluated and approved by the Transportation and Infrastructure and Planning Commissions. Augmentation proposals

¹ ARTERIAL CAPACITY AUGMENTATIONS

<u>Improvement</u>	<u>Capacity Augmentation*</u>
• Signal timing/coordination	Up to 10%
• Additional right or left turn lanes	10% to 33%
• Additional through lanes at intersection	20% to 35%
• Auxiliary lanes	20% to 35%
• Eight lane major	33%
• Intersection grade separation (flyover)	100%

*Effective operational capacity augmentation may be significantly less due to variations in intersection traffic flow patterns.

related to a development case may be reviewed in connection with the processing of the development case.

The following list was identified for further study as a result of the Conservation/Open Space General Plan Amendment (GPA-16).

Alton Parkway from Jeffrey Road. to approximately 2,500 feet east of Jeffrey

Alton Parkway from unnamed PA 12 north-south road to Sand Canyon

Ford Road from the-San Joaquin Hills Transportation Corridor to MacArthur Boulevard

Laguna Canyon Road from State Route-133 to Bake Parkway

Irvine Boulevard from unnamed arterial to the west leg of the Eastern Transportation Corridor

Culver Drive from Main Street to Michelson Drive

Sand Canyon Road from Alton Parkway to Interstate-405

Bison from California to MacArthur Boulevard

Barranca Parkway from Technology to Irvine Center Drive

Alton Parkway from Technology to Interstate

Bake Parkway from Rockfield to Interstate-5

Irvine Center Drive from Alton Parkway to Bake Parkway

Other arterial links not listed herein may be augmented as necessary in accordance with this implementing action.²

Policy (l): Implement a transportation management program for the Irvine Business Complex (PA 36) with a goal to reduce p.m. peak hour vehicle trips by 15 percent.

Policy (m): Work with the University of California at Irvine, consistent with the City of Irvine and UCI Culver Drive Memorandum of Understanding, to realign Culver Drive west along the University's property, in order to minimize environmental impacts to residential developments in Planning Area 21, adjacent to Culver Drive.

Policy (n): Design roadways which ensure safe and efficient traffic flow while also providing adequate and convenient access to retail sites.

Policy (o): Monitor and update ITAM Trip Generation Rates as required to maintain consistency with changes in development, as well as with changes in any pertinent regional traffic model. Any changes to trip generation rates shall be analyzed to determine any effects on the Level of Service (LOS) Standards and intersection capacity standards. Such changes shall be reviewed by the Transportation and Infrastructure Commission and Planning Commission, and approved by the City Council.

² Augmented capacity methodology is detailed in the City of Irvine Conservation/Open Space Traffic Study prepared by Austin-Foust Associates, Inc. (See Appendix A, EIR 82-GA-0016).

Policy (p): Secure public support for the development of a balanced circulation system through a well-organized public relations program.

Policy (q): Ensure development within other planning areas within the City of Irvine will not be responsible for funding and construction of IBC area-wide circulation improvements, if consistent with the land use assumptions in the IBC Program Environmental Impact Report (PEIR).

Policy (r): Pursue local and outside funding for the implementation of the roadway system from sources.

OBJECTIVE B-2: ROADWAY DESIGN

Develop a vehicular circulation system consistent with high standards of transportation engineering safety and with sensitivity to adjoining land uses.

The following policies support Objective B-2:

Policy (a): Align roadways in relationship to adjoining land uses to minimize noise and visual impacts.

Policy (b): Design roadways to mitigate vehicle noise through:

- Physical barriers, such as berms which would permit residential units to be effectively screened from excessive noise.
- Semi-depressed roadways, in conjunction with berms and belts of trees, where feasible.

Policy (c): Design roadways to follow the natural terrain and the least environmentally damaging routes, particularly in hillside areas.

Policy (d): Ensure that existing roadways are designed to complement other circulation networks without the need for major reconstruction.

Policy (e): Design roadways which:

- Discourage through traffic in residential neighborhoods.
- Prohibit parking on all thruways, parkways, and community collectors.
- Limit the routes, speeds, and operation types of trucks and buses.

Policy (f): Visually enhance the appearance of roadways and parking areas through design techniques and landscaping. Particular attention should be paid to streetscape design and the creation of new, and preservation of existing, view corridors.

Level of Service Standards

Level of Service (LOS) Standards are defined for intersections and roadway links (Figure B-1) as follows:

Level of Service "A": The volume/capacity ratio ranges from .0 to .60. At this LOS, traffic volumes are low and speed is not restricted by other vehicles. All signal cycles clear with no vehicles waiting through more than one original cycle. For roadway links, this LOS indicates no physical restriction on operating speeds.

Level of Service "B": The volume/capacity ratio ranges from .61 to .70. At this LOS, traffic volumes begin to be affected by other traffic. Between 1 and 10 percent of the signal cycles have one or more vehicles which wait through more than one signal/cycle during peak traffic periods. For roadway links, this LOS indicates flow with few restrictions on operating speeds.

Level of Service "C": The volume/capacity ratio ranges from .71 to .80. At this LOS, operating speeds and maneuverability are closely controlled by other traffic. Between 11 and 30 percent of the signal cycles have one or more vehicles which wait through more than one signal cycle during peak traffic periods. For roadway links, this LOS indicates stable flow, higher volume, and more restrictions on speed and lane changing.

Level of Service "D": The volume/capacity ratio ranges from .81 to 90. At this LOS, traffic will operate at tolerable operating speeds, although with restricted maneuverability.

More than 30 percent of the signal cycles have one or more vehicles which wait through more than one signal cycle during peak traffic hours. For roadway links, this LOS indicates tolerable conditions, approaching unstable flow, and little freedom to maneuver.

Level of Service "E": The volume/capacity ratio ranges from .91 to 1.0. Traffic will experience restricted speeds, vehicles will frequently have to wait through two or more cycles at signalized intersections, and any additional traffic will result in breakdown of the traffic carrying ability of the system. For roadway links, this LOS indicates unstable flow, lower operating speeds than LOS D and some momentary stoppages.

Level of Service "F": Long queues of traffic, unstable flow, stoppages of long duration where traffic volumes and traffic speed can drop to zero. Traffic volumes will be less than the volume which occurs at Level of Service "E." For roadway links, this LOS indicates forced flow operation at low speeds where the roadway acts as a storage area and there are many stoppages.

Policy (g): Include mitigation measures in the approval of all proposed developments to minimize negative impacts of the automobile.

Policy (h): Properly space and interconnect traffic signals in order to minimize the number of traffic signals, and the acceleration/deceleration that produces significantly higher vehicular emissions and noise levels.

Policy (i): Utilize traffic control device systems that are understandable, attractive, simple, uniform, and visible.

Policy (j): Implement Transportation Management Plans developed for Irvine Industrial Complex (Spectrum) and Irvine Business Complex.

Policy (k): Continue to monitor and develop solutions to the Irvine Business Complex (IBC) traffic. This is a mutual effort of the affected agencies (e.g. Caltrans, Orange County Transportation Commission, etc.)

Policy (l): Periodically review the impact of increases in the San Diego and Santa Ana Freeway traffic on utilization of parkways in the east-west activity corridor.

Policy (m): Require, at the time Campus Drive, University North and California Avenue are proposed to be improved to their General Plan designation, environmental studies that consider alternative roadway designs to at-grade level designs, to ensure that the ecologically significant adverse biotic impacts are avoided, or mitigated to a level of insignificance.

Policy (n): List Yale Avenue between University Drive on the south and Yale Loop on the north on the General Plan Operational Characteristics diagram as a "collector" and as a "commuter" (two-lane roadway) on the Arterial Highway Designation diagram. The cross section of Yale Avenue across the San Diego Freeway shall provide for two travel lanes (one in each direction), bicycle lanes and sidewalks. The roadway may widen to meet the existing cross section of Yale Avenue at the Michelson and University intersections. The existing roadway between Yale, Michelson and University may be narrowed, or a median installed, to limit the roadway to two lanes, plus turning lanes.³

Policy (o): List Yale Avenue between Deerfield Avenue on the south and Edgemere Avenue on the north on the General Plan Operational Characteristics diagram as a "collector" and as a "commuter" (two-lane roadway) on the Arterial Highway Designation diagram. The cross section of Yale Avenue across the AT&SF railroad shall provide for two travel lanes (one in each direction), bicycle lanes and sidewalks. The roadway may widen to meet the existing cross section of Yale Avenue at the Deerfield and Winvale intersections.³

Policy (p): Construct noise walls (where needed) on Yale Avenue between University and Yale Loop so that no residences along Yale Avenue between Yale Loop and University are exposed to noise levels in excess of City standards.³

³Implementing actions n, p, q, r and s have been completed. However, due to a voter initiative, Measure B, they are required to remain in the General Plan.

Policy (q): Avenue between Deerfield and Winvale so that no residences along Yale Avenue between Irvine Center Drive and Walnut Avenue are exposed to noise levels in excess of City standards.³

Policy (r): Landscape Yale Avenue between Deerfield and such that off site views of the project are mitigated to City standards.³

Policy (s): Install traffic signals at the intersection of Yale and Deerfield prior to opening Yale Avenue between Deerfield and Winvale³

Irvine Ballot Measure "B"

On June 5, 1990, the residents of the City approved Ballot Measure "B" which amended the General Plan for vehicular overcrossings of Yale Avenue at the AT&SF railroad and the San Diego Freeway (I-405). To date, the vehicular overcrossing at the AT&SF railroad has been constructed according to the following provisions of Measure "B":

- Between Deerfield and Edgemere, Yale is shown as a collector on the MPAH and as a commuter on the Operational Characteristics diagram. The section at et AT&SF crossing provides for one vehicle lane in each direction, bicycle lanes and sidewalks.
- Yale between Winvale and Deerfield must contain noise walls so that no residences along Yale are exposed to noise in excess of City standards.
- Yale between Deerfield and Winvale must be landscaped so that off-site views of the project are mitigated to City standards.

Policies n, p, q, r and s must remain in the General Plan unless repealed by a City-wide vote.

**OBJECTIVE B-3:
PEDESTRIAN CIRCULATION**

Establish a pedestrian circulation system to support and encourage walking as a mode of transportation.

The following policies support Objective B-3:

Policy (a): Link residences with schools, shopping centers, and other public facilities, both within a planning area and to adjacent planning areas, through an internal system of trails.

Policy (b): Require development to provide safe, convenient, and direct pedestrian access to surrounding land uses and transit stops. Issues such as anticipated interaction between pedestrians and vehicles, proposed infrastructure improvements and design standards shall be considered.

Policy (c): Design and locate land uses to encourage access to them by nonautomotive means.

OBJECTIVE B-4: BICYCLE CIRCULATION

Plan, provide and maintain a comprehensive bicycle trail network that together with the regional trail system, encourages increased use of bicycle trails for commuters and recreational purposes.

The following policies support Objective B-4:

Policy (a): Use the Trails Network diagram (Figure B-4) as a basis for detailed planning of the bicycle trail system. Detailed planning shall occur through the development processes outlined in the City's Zoning and Subdivision Ordinances.

Policy (b): Require a system of bicycle trails, both on- and off-street, in each planning area. Such trails shall be linked to the system shown in Figure B-4. The on-street trails shall be designed for the safety of the cyclist.

Policy (c): The trail system shall be designed to accommodate cyclists of all levels of experience and shall provide for both recreation and transportation.

Policy (d): Require bicycle trail linkages between residential areas, employment areas, schools, parks, community facilities, commercial centers, and transit facilities.

Policy (e): Require pedestrian and bicycle circulation plans detailing access to the subject property and adjacent properties in conjunction with new development.

Policy (f): Require that bicycle trip destinations, including community facilities, commercial centers, and transit facilities be equipped with appropriate bicycle facilities including, but not limited to, the provision of showers and bike racks.

Policy (g): Require traffic control devices and traffic signal phasing for bicycle crossing, turning, and through movements.

Policy (h): Require grade-separated crossings for Class I bikeways at major intersections, wherever feasible, to increase safety and efficiency.

Policy (i): Provide off-street bicycle trails in areas with minimal cross traffic, such as open space spine, flood control and utility easements, where possible.

Policy (j): Support programs to increase public awareness of bicycle safety and bicycling as an alternative mode of transportation.

Policy (k): Incorporate, where appropriate, school and park locations within the design of the bikeway system.

OBJECTIVE B-5: RIDING AND HIKING TRAIL NETWORKS

Plan, develop and maintain a riding and hiking trail network and support facilities to satisfy the needs of riders and hikers.

The following policies support Objective B-5:

Policy (a): Phase expansion of the riding and hiking trail network consistent with the City's growth.

Policy (b): Locate and maintain riding and hiking trails as illustrated on Figure B-5, Trails Network, and in areas identified as permanent open space, scenic highway corridors, agricultural edges, public utility rights of way and easements, flood control channels, and areas designated for rural and estate density.

Policy (c): Encourage the development of trail facilities that minimize impacts on existing or planned development and wildlife preservation areas.

Policy (d): Provide and maintain equestrian staging areas, rest stops and boarding centers at locations which provide easy access to the trail system and are away from high density urban areas.

Policy (e): The Master Plan for Riding and Hiking Trails shall include a precise plan for riding and hiking trails to:

- Identify trail alignments, standards, priorities for development, and recommended support facility locations
- Depict the exact locations where riding, hiking and bicycle trails shall share a common surface
- Provide a mechanism whereby City trails can be submitted for inclusion in Orange County's Master Plan of Riding and Hiking Trails.

Policy (f): Require developer dedication and final improvement of the trail alignments as shown in the master plan.

Policy (g): Monitor and seek funds for trail system development and maintenance from all available sources.

Policy (h): Ensure in planning area 4 that an east/west trail connection to Hicks Canyon Trail (i.e. County of Orange Foothill Trail) is provided, per the City's Master Plan of Riding and Hiking Trails.

OBJECTIVE B-6: PUBLIC TRANSIT PROGRAM

Work with Orange County Transportation Authority to implement a public transit system for trips within the City and adjacent areas.

The following policies support Objective B-6:

Policy (a): Plan residential, commercial, and industrial areas to enable effective use of public transit.

Policy (b): Consider emergency parking lanes on arterial highways potential public transit corridors.

Policy (c): Coordinate with OCTA to:

- Implement a bus service network in and to the City as a feasible alternative to the use of the automobile.
- Provide bus service to existing land uses to maximize patronage.
- Pursue additional transit service to the City.

Policy (d): Undertake detailed planning of an advanced transit network (including local and activity center systems) encompassing the City and its sphere of influence as illustrated in Figure B-3

Policy (e): Adopt a master plan of potential advanced intracity transit routes which includes a detailed study of transit technologies.

Policy (f): Coordinate the development of intracounty and regional transit stops with Irvine's intracity transit system.

Policy (g): Overlay transit routes on planning area edges, parkways, safety lanes, flood control channels, and other open space where feasible. Exclusive transit rights of way may be required where no such overlay is feasible.

Policy (h): Encourage the short-term use of rights of way reserved for the various circulation systems for other uses, such as recreational open space.

Policy (i): Require the applicants of new developments, at the time of tentative tract map submittal to indicate the precise location of transit routes.

Policy (j): Reserve railroad rights of way for regional transit corridors.

Policy (k): Nothing in this Circulation Element should be construed as a commitment by the City to establish a separate transportation authority or a City-funded bus system separate from systems run by OCTA or other public and private entities.

OBJECTIVE B-7: AIR TRANSPORTATION PROGRAM

Promote improved air transportation for Orange County while minimizing noise and air pollution.

The following policies support Objective B-7:

Policy (a): Coordinate public and local transit with planning for air transportation.

Policy (b): Support expansion of service at John Wayne Airport as long as all environmental impacts such as noise, air

pollution, and traffic congestion can be mitigated

Policy (c): Oppose commercial use of El Toro MCAS and continue liaison with surrounding communities in organizing and supporting opposition to such use.

Policy (d): Encourage the Navy Department and the Marine Corps to minimize the noise, vibration and pollution impacts of their operations.

Encourage use of Los Angeles and Ontario International Airports for continental and international flights. Explore commercial airport potential of existing and closing military facilities within Los Angeles, San Bernardino, Riverside and San Diego counties, as well as existing commercial airport and general aviation airports which have expansion potential in order to meet the growing passenger demand on a regional basis. Discourage the development or expansion of airfields which are not now operating as commercial airports, or the expansion of existing commercial airports which would adversely impact existing urban communities.

Policy (c): Develop, in cooperation with the City of Newport Beach, an activity center transportation system to alleviate the ground access congestion related to John Wayne Airport.

Policy (d): Encourage the development of high-speed ground transportation systems to supplement the air system for meeting regional travel needs.

OBJECTIVE B-8: TELECOMMUNICATIONS PROGRAM

Promote the use of telecommunications by Irvine residents, employers, employees and students as a means to reduce air and noise pollution generated by automobile traffic.

The following policies support Objective B-8:

Policy (a): Encourage the private sector to participate in, and to be, the primary provider of, telecommunications infrastructure and services for the community.

Policy (b): Ensure that leading edge telecommunication services are available to all businesses and residents within the community, and are considered in the planning of future development and infrastructure improvements.

Policy (c): Assume the role of a facilitator to encourage productive communications between public and private sector agencies with regard to telecommunications issues and services.

Policy (d): Protect the public's assets (i.e., streets, parks) against unmitigated impacts of telecommunications infrastructure development.

Policy (e): Retain and ensure the community's high standards for aesthetics, now and in the future.

Policy (f): Ensure that adequate and secure bandwidth for Public Safety and other City communications are continuously considered.

"Everything in life is somewhere else, and you get there in a car."

E.B. White

RELATED OBJECTIVE NUMBERS

The following objectives are related to the Circulation Element:

Land Use Element - A-1, A-4

Housing Element - C-1, C-2, C-7

Noise Element - F-1

Public Facilities Element - G-1

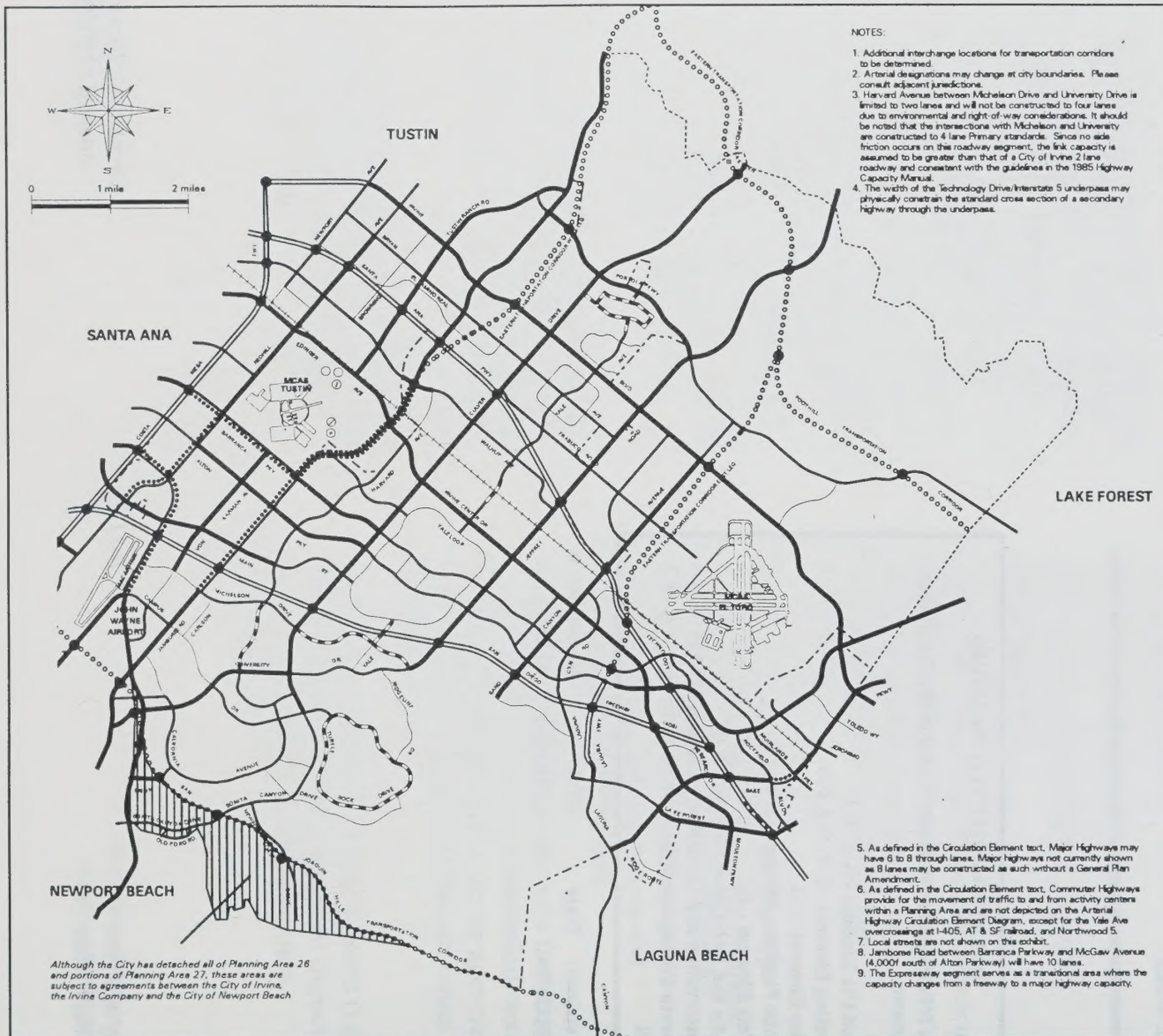
Safety Element - J-2

Parks and Recreation Element - K-3

Conservation and Open Space Element - L-3 to L-5

Growth Management Element M-1 through M-5, M-7, M-8

Revisions:	Date	GPA	Resolution #
	03/09/99	18930-GA	99-29



City of Irvine General Plan



Figure B-1

MASTER PLAN OF ARTERIAL HIGHWAYS

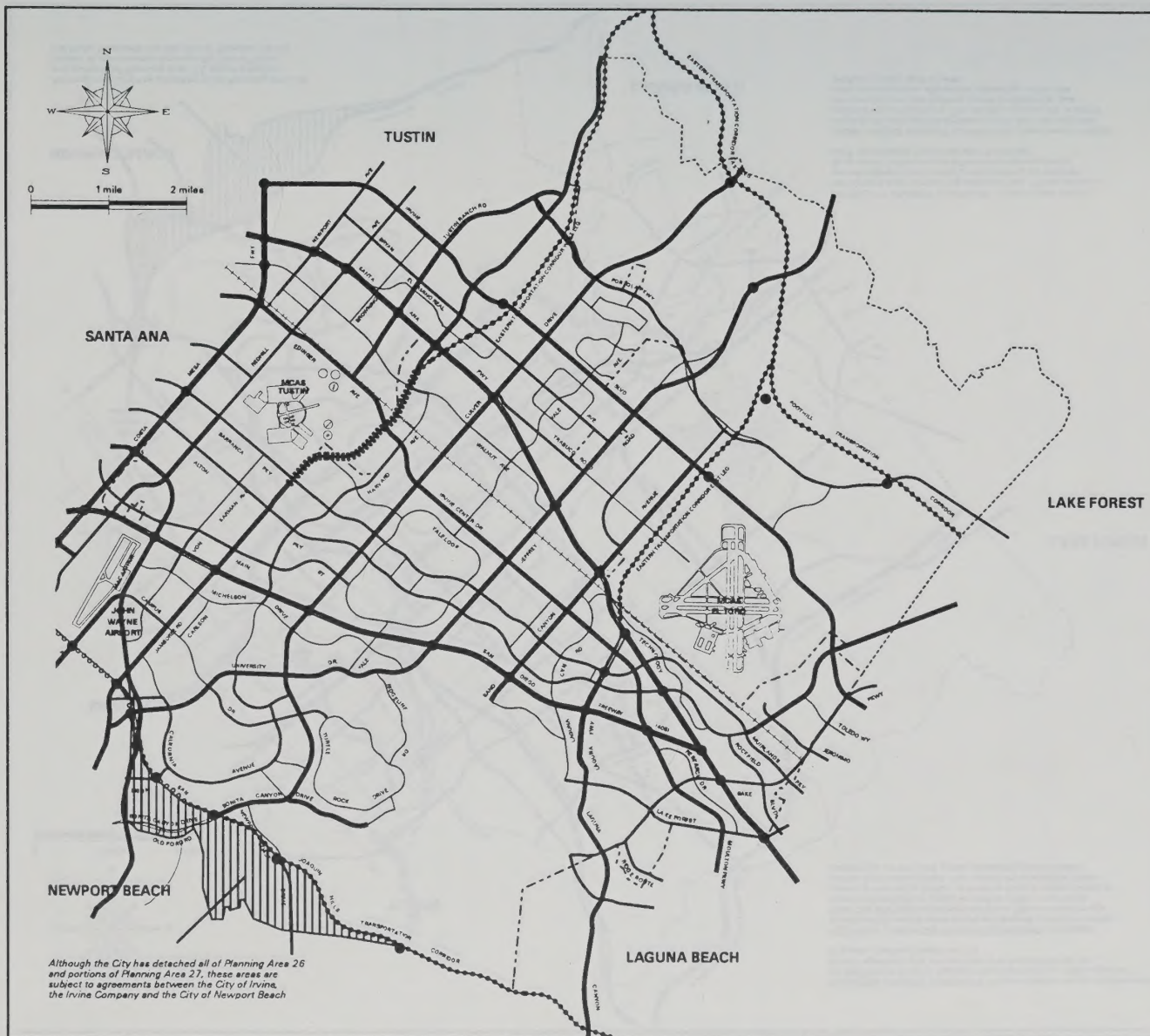
LEGEND

- City Sphere of Influence
- City Boundary
- Interchange
- ==== Freeway
- Transportation Corridor
- ===== Expressway
- ===== Major Highway 8-Lanes
- ===== Major Highway 6-Lanes
- ===== Primary Highway
- ===== Secondary Highway
- Commuter Highway

NOTE: Not all commuter highways are shown on the map

Date
Adopted: 3/9/99

City Council
Resolution: 99-29



City of Irvine General Plan



Figure B-2

OPERATIONAL CHARACTERISTICS

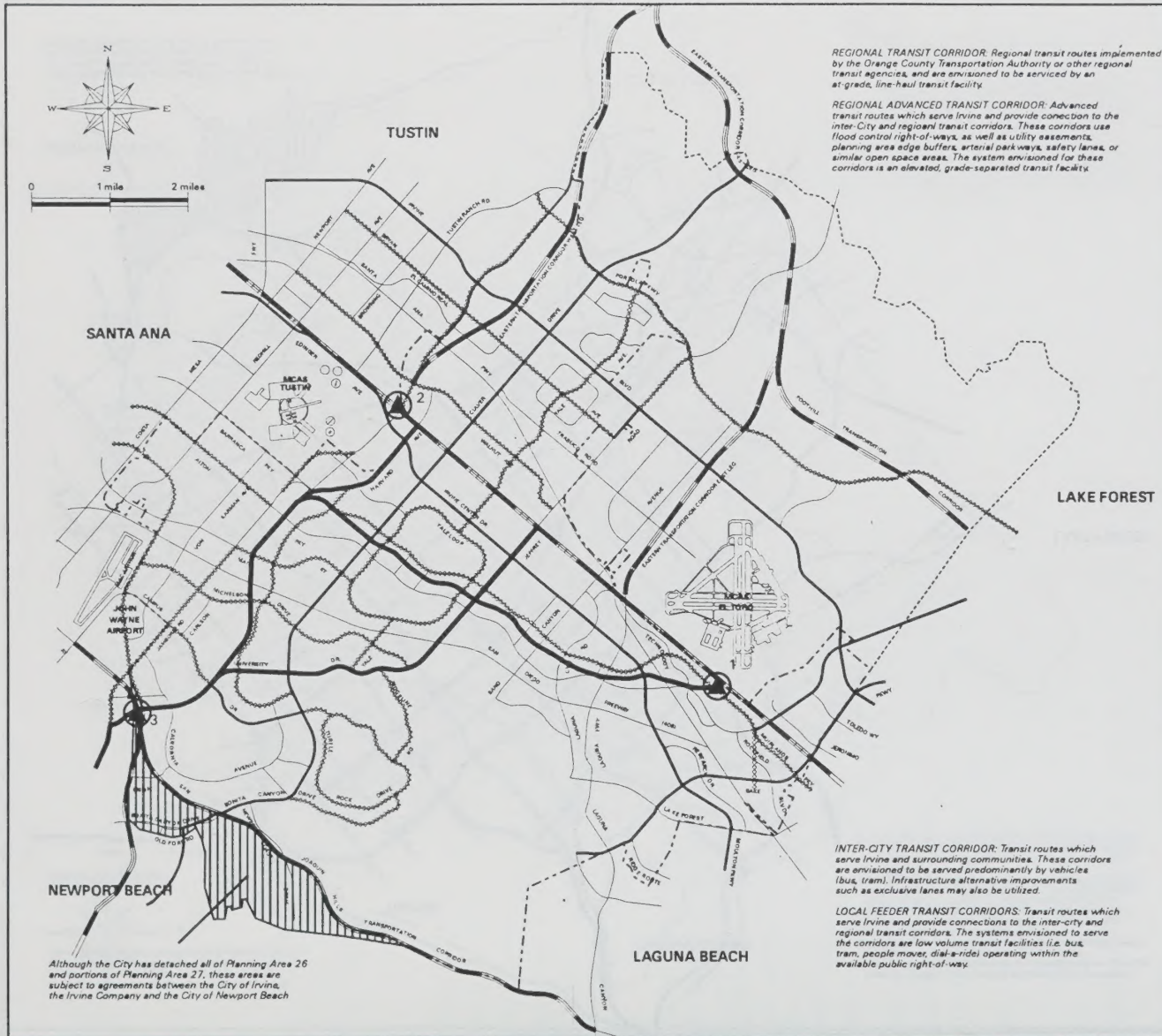
LEGEND

- City Sphere of Influence
- - - - - City Boundary
- Interchange
- ===== Freeway
- ooooooo Transportation Corridor
- ===== Expressway
- ===== Thruway
- ===== Parkway
- ===== Collector

NOTE: Not All Community Collectors are shown on this map

Date
Adopted: 3/9/99

City Council
Resolution: 99-29



City of Irvine General Plan



Figure B-3

PUBLIC TRANSIT

LEGEND

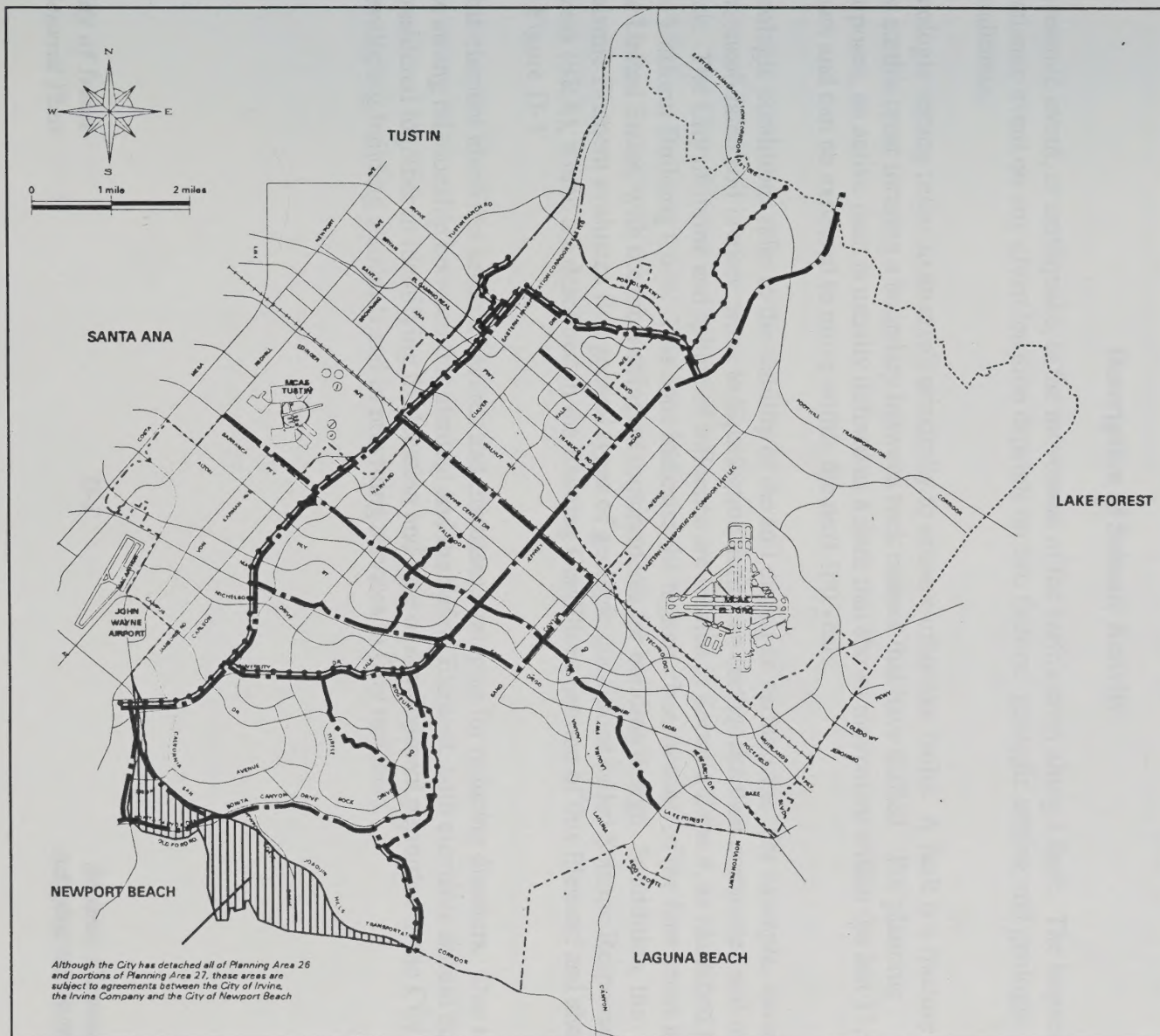
- City Sphere of Influence
- City Boundary
- ⬤ Transit Stop *
- Regional Transit Corridor
- Regional Advanced Transit Corridor
- Inter-City Transit Corridor
- Local Feeder Transit Corridor
- Arterials

* A transit Stop is defined as an intermodal transfer facility that typically serves a guideway or railway system and other motorized and non-motorized modes of transportation.
The facilities shown are:

1. Existing Irvine Transportation Center
2. Planned commuter rail platform in Tustin
3. Future stop serving UCI, Irvine and Newport Beach

Date
Adopted: 3/9/99

City Council
Resolution: 99-29



City of Irvine General Plan



Figure B-4

TRAILS NETWORK

LEGEND

- City Sphere of Influence
- City Boundary
- ■ — Class I (Off-Street) Trails
- Class II (On-Street) Trails are on all streets shown on this exhibit except for Barranca between Jamboree and Redhill and along Mac Arthur between Jamboree Blvd., northwest to city limits.
- ● — Riding and Hiking Trails

NOTE: The Trail Network Diagram is illustrative only and not indicative of precise alignments.

Date
Adopted: 3/9/99

City Council
Resolution: 99-29

ELEMENT D **SEISMIC**

GOAL: Minimize the loss of life, disruption of goods and services, and destruction of property associated with an earthquake.

Description of Seismic Activity

A seismic event, or earthquake, is the movement of the earth's crust along a fault. The impact of a seismic event on any given location depends on two factors: geologic setting and geologic conditions.

Geologic setting refers to an area's proximity to active earthquake faults. A fault is a fracture in the earth's crust forming a boundary between rock masses that have shifted. For planning purposes, an active fault is usually defined as a fault that shows movement within the last 11,000 years and can be expected to move within the next 100 years.

Geologic conditions refer to the stability of the soil during an earthquake. For example, loose, unconsolidated soil is more prone to liquefaction during an earthquake than compacted soil or rock. The City of Irvine and sphere of influence are located in Seismic Zone 4, as identified in the Uniform Building Code. This zone indicates the highest classification of the four zones in the United States, with the most stringent requirements for building design. In addition, the Seismic Element evaluates five general types of geologic conditions called Seismic Response Areas (SRA), which are described in the Existing Conditions Section of this Element and shown in Figure D-3.

This element identifies seismic hazards and discusses strategies for reducing disasters. Due to the strong relationship between this element and the Safety Element, both elements should be considered together in identifying the location and type of development permitted in the City, in developing building standards and in providing services to City residents.

Existing Conditions

The City of Irvine and its sphere of influence are affected by both local and regional active faults. Figure D-1, Regional Geology, depicts the City's location in relation to these active faults. The following list describes these surrounding faults:

- a. Norwalk Fault - a local fault on which there has been some recorded activity north of the City.
- b. Newport-Inglewood Fault - the nearest regional, active fault. Originates north of Inglewood, passes below Newport Bay and Balboa Island and continues south off the coast, possibly as far as San Diego. This fault is capable of generating earthquakes up to a magnitude of 7.5 on the Richter Scale.
- c. Whittier-Elsinore Fault - passes the City and sphere of influence about ten miles to the northeast. It is considered potentially active, as there is evidence of large movements in the recent geologic past (10,000 years); and it is considered capable of generating earthquakes up to a magnitude of 7.5 on the Richter Scale.
- d. San Andreas Fault - passes within 35 miles of the City and sphere of influence and is capable of generating earthquakes of 8.0 on the Richter Scale.
- e. San Jacinto Fault - approximately 30 miles to the northeast of Irvine and parallel to the San Andreas fault. This fault has been more active than the San Andreas fault within the last 100 years. It is capable of generating earthquakes up to 7.5 on the Richter Scale.

In addition, a number of inactive faults have been identified in the City. These are shown

on Figure D-2, Inactive Fault Location. Figure D-3 shows the locations of the Seismic Response Areas (SRAs) within the City.

SRAs describe the different types and magnitudes of potential seismic hazards, making it possible to evaluate the risks of property damage, personal injury, and loss of vital services which may result from an earthquake.

The predominant characteristics of the Seismic Response Areas are:

SRA 1: Potential soft or loose soils/high ground water. This is one of the two areas considered to have a greater potential for ground failure in the form of liquefaction, in comparison to the other seismic response areas. Liquefaction is not expected to occur for all earthquakes, or over the whole of SRA 1.

SRA 2: Denser soils/deeper ground water. The predominant potential seismic hazard in this area is ground motion. Ground breakage and/or ground failure is not expected to characterize this area. Localized liquefaction potential is remote.

SRA 3: Shallow alluvium over and abutting bedrock. Ground motion is the primary potential seismic hazard. As a slope increases in this area, slope instability potential also increases. Localized liquefaction potential is remote.

SRA 4: Highlands characteristically over 20 percent slope. In general, this area is potentially less stable than in SRA 3 due to the larger incline. Liquefaction potential is extremely remote.

SRA 5: Less stable geologic formations. These are areas representing existing mapped landslide areas. As such, potential for slope instability is higher than in SRA

Ground breakage is not expected to occur within the City and sphere of influence.- However, the City would be subject to ground motion and other effects of earthquakes. Careful planning will be necessary to minimize public maintenance costs for development in these areas.

The magnitude of risk will vary throughout the City and sphere of influence depending upon the land use. Land uses differs in terms of type of construction, type of occupancy, function, costs, and value of improvements. Figure 1 in Appendix D, the Seismic Land Use Compatibility Matrix, indicates the level of compatibility between different land uses and the seismic response areas within the City.

Trends

The City of Irvine's seismic activity report shows that Irvine might have a 50 percent probability in any 100-year period, for one of the following two earthquakes:

- a. A nearby earthquake (within 10 miles of the City) of moderate Richter magnitude 5 to 6. Such an earthquake could occur on the Newport-Inglewood or Whittier-Elsinore fault systems.
- b. A major, distant earthquake (20-40 miles from the City) of Richter Magnitude 8 to 8.5. Such an earthquake could occur on the San Andreas Fault.

Identification of Issues

1. **How can the City appropriately regulate development in areas subject to differing levels of risk, thus minimizing the risk of seismic hazards to life and property?**
2. **What steps can the City take to minimize loss of life and property in the occurrence of an earthquake?**
3. **What steps can the City take to implement standards for retrofit to ensure that all buildings meet seismic restraint requirements?**

Response to Issues

The following objectives and policies have been adopted to address the seismic issues.

OBJECTIVE D-1: POTENTIAL HAZARDS

Take potential environmental hazards into account in the General Plan.

The following policies support Objective D-1:

Policy (a): Identify the locations of potential seismic hazards to minimize the effects of the potential hazard through special development constraints. Conduct a research program to develop more refined boundaries

for seismic response areas, particularly for SRA 1.

OBJECTIVE D-2: RESPONSE TO HAZARDS

Require appropriate measures to protect public health and safety and to respond to seismic hazards in all public and private developments.

The following policies support Objective D-2:

Policy (a): Use Figure D-3 during development review to minimize the effects of environmental hazards as follows:

- For development in Seismic Response Areas 1, 2, 3, and 4:
Concurrent with submittal of applications for concept plans and zone changes, as well as the preparation of environmental impact reports, preliminary geotechnical reports are required for the following uses:
 1. All planning area level proposals.
 2. Community/regional level shopping centers.
 3. Major commercial/office centers.
 4. Major public facilities.
 5. Major public utilities.
 6. Major transportation linkages.
 7. Any facility critical to emergency response (i.e. hospitals, police and fire stations, municipal government centers, transportation linkages, and designated emergency centers).

8. Major industrial development (applies to SRA 1 only).

If a detailed geotechnical report confirms the existence of a seismic hazard, the City has the option to require special earthquake resistant design features or use limitations as appropriate to the specific case.

- For development in Seismic Response Area 5:

Preliminary geotechnical reports shall be submitted with applications for concept plans and zone changes as well as with environmental impact reports for non-open space uses. Those reports should concentrate on addressing slope instability and probable changes to the environment which would occur if these areas would be developed.

If a detailed geotechnical report confirms existence of potential seismic hazard, the City has the option to require special earthquake resistant design features or use limitations as appropriate to the specific case.

Policy (b): Incorporate the Seismic Land Use Compatibility Matrix Table D-1 requirements into the environmental impact review process.

Policy (c): Continue to coordinate emergency planning efforts with the other cities in Orange County, the County of Orange, and the state.

Policy (d): Require detailed site studies to determine the potential for seismic hazards for facilities which are critical in an emergency. These facilities include but are not limited to:

- Police and fire stations.
- Municipal government centers.
- Transportation infrastructure.
- Major public utilities (electrical, gas and water facilities).
- Designated emergency centers.
- Buildings greater than 15 stories in height.

Policy (e): Require installation of accelerographs to measure seismic movement in highrise structures, where deemed necessary by the Chief Building Official.

Policy (f): Continue to maintain a "command post" to facilitate emergency efforts if a seismic event should occur.

Policy (g): Require a detailed geological and soils study as needed, in accordance with the requirements of the City's Subdivision Ordinance, before approving development.

Policy (h): Continue to require structures to conform to the seismic design requirements found in the Uniform Building Code.

Policy (i): Ensure that the most recent adopted seismic standards are used for new construction.

OBJECTIVE D-3: CITIZEN PARTICIPATION

Encourage the community to take action to protect itself from seismic hazards.

The following policies support Objective D-3:

Policy (a): Sponsor earthquake insurance programs for City residents.

Policy (b): Sponsor educational programs to prepare the community for earthquakes and other natural disasters.

Policy (c): Encourage the community to establish "family emergency disaster plans."

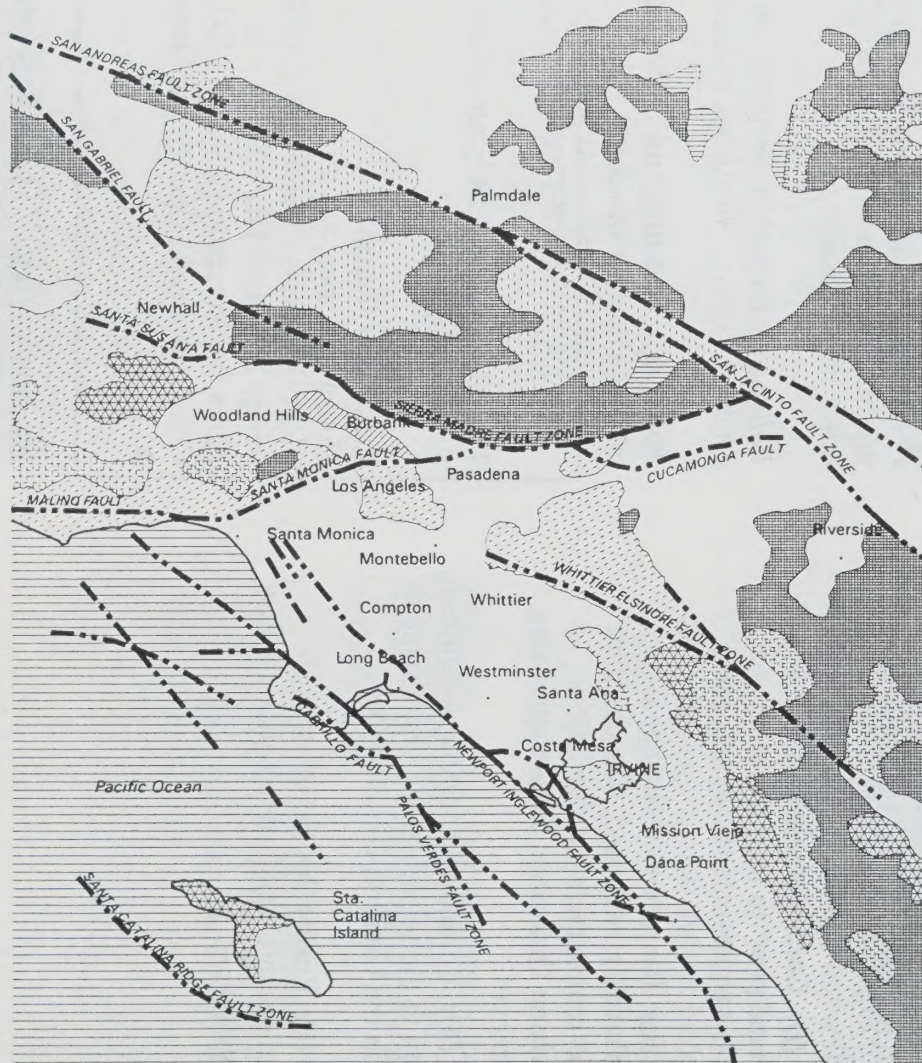
Policy (d): Encourage the community to purchase disaster insurance.

RELATED OBJECTIVE NUMBERS

The following objectives are related to the Seismic Element:

Land Use Element- A-6
Housing Element - C-2
Public Facilities Element - G-1, G-2
Safety Element - J-1, J-2
Parks and Recreation Element - K-1, K-2
Conservation and Open Space Element - L-4, L-5, L-10

<u>Revisions:</u>	<u>Date</u>	<u>GPA</u>	<u>Resolution #</u>
03/09/99	18930-GA		99-29



City of Irvine General Plan



Figure D-1

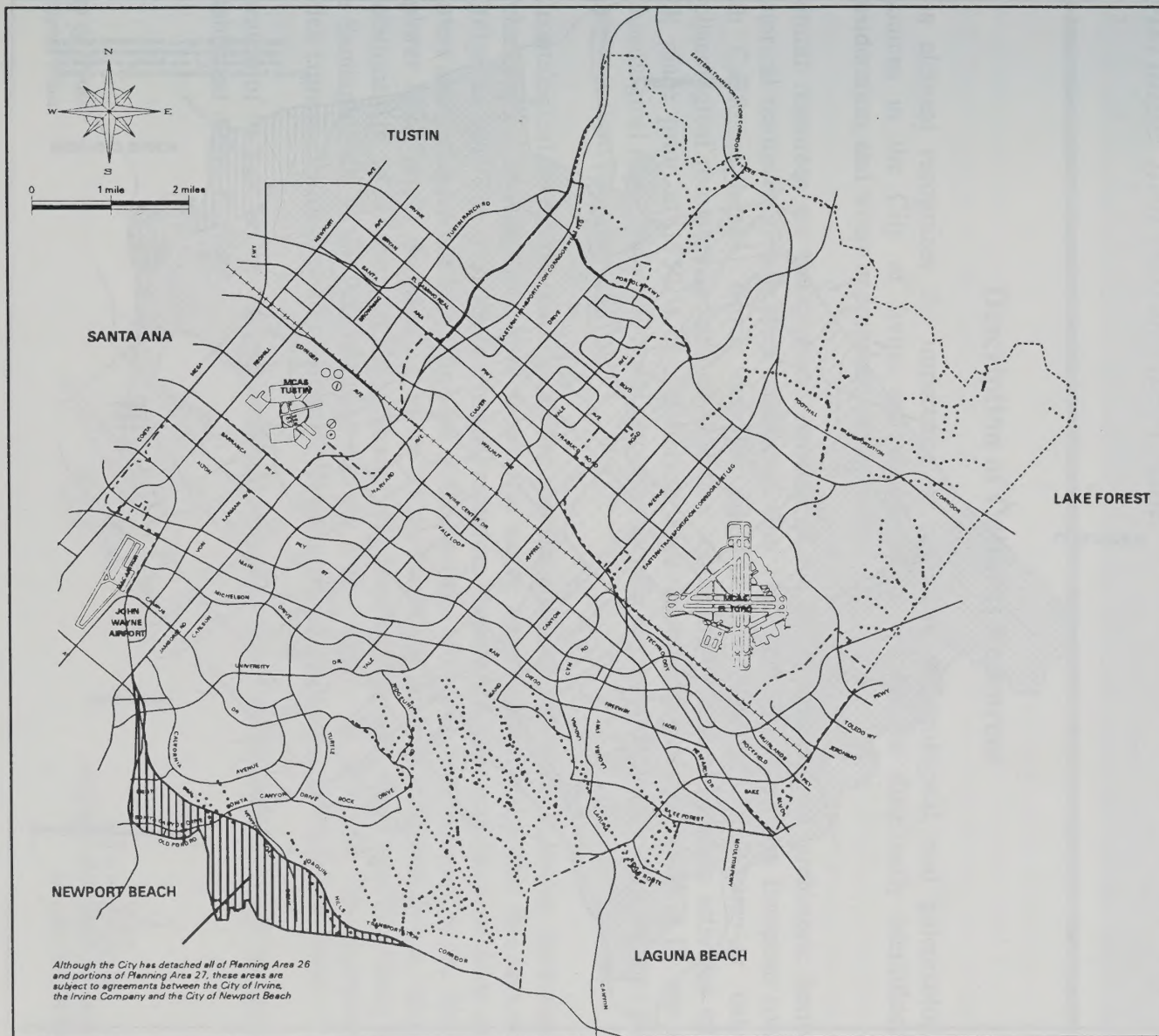
REGIONAL GEOLOGY

LEGEND

- — — — — Major faults and fault zones
- Cenozoic non-marine sedimentary rocks and alluvial deposits
- Cenozoic marine sedimentary rocks
- Cenozoic volcanic rocks
- Pre-Cenozoic metamorphic rocks of unknown age
- Late Mesozoic shelf and slope sedimentary rocks
- Granitic rocks chiefly of Mesozoic age
- Mesozoic sedimentary and volcanic rocks; in places strongly metamorphosed
- Paleozoic sedimentary and volcanic rocks; in places strongly metamorphosed
- Precambrian Rock of all types including coarse-grained intrusives

Date
Adopted: 3/9/99

City Council
Resolution: 99-29



City of Irvine General Plan



Figure D-2

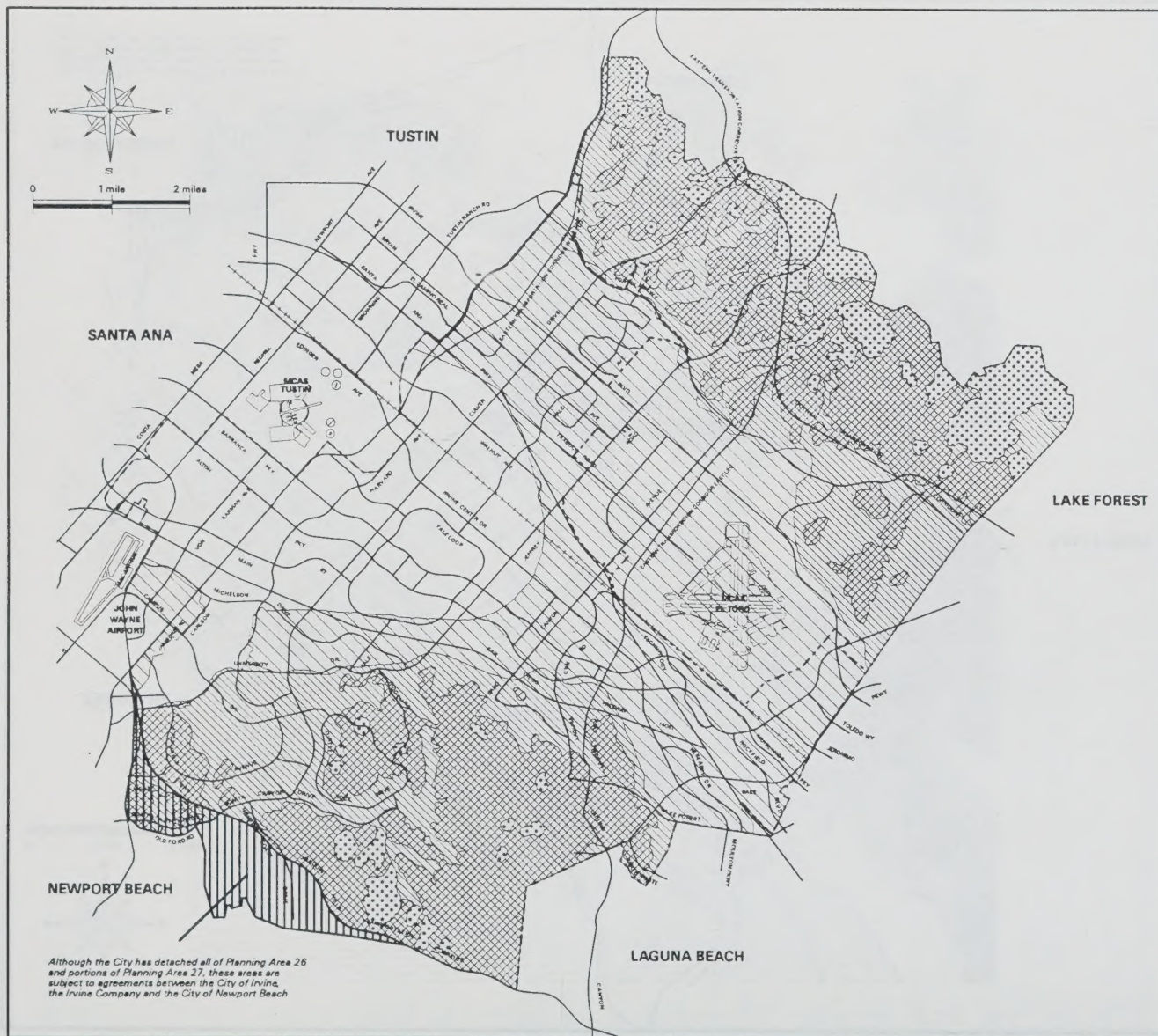
INACTIVE FAULT LOCATIONS

LEGEND

- City Sphere of Influence
- City Boundary
- Fault Line

Date
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City Council
Resolution: 99-29



City of Irvine General Plan



Figure D-3

SEISMIC RESPONSE AREAS

LEGEND

- City Boundary
-  SRA-1, Soft Soils/
High Ground Water
-  SRA-2, Denser Soils/
Deeper Ground Water
-  SRA-3, Alluvium/
Shallow Bedrock
-  SRA-4, Highlands Over
20 Percent Slope
-  SRA-5, Less Stable
Geologic Formations

Date
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City Council
Resolution: 99-29

ELEMENT E

CULTURAL RESOURCES

GOAL: Ensure the proper disposition of historical, archaeological, and paleontological resources to minimize adverse impacts, and to develop an increased understanding and appreciation for the community's historic and prehistoric heritage, and that of the region.

Description of Cultural Resources

This element recognizes the importance of historical, archaeological, and paleontological resources in the City of Irvine and establishes a process for their early identification, consideration, and where appropriate, preservation.

Cultural resources are the physical remains of the City's historic and prehistoric heritage. Historical resources include sites established after 1542 A.D., the date when European contact with California began, which may be significant to history, architecture, or culture. Archaeological resources include any location containing evidence of human activities which took place prior to 1750 A.D. Historical sites established prior to 1750 A.D. are also archaeological sites. Paleontological resources include any location containing a trace of plants or animals from past ages.

Paleontological investigations have shown that the area was previously a marine environment. Archaeological investigations have shown that native Americans arrived within this area about 9,000 years ago. The area's diverse natural resources supported a large population of these native hunters and gatherers. In 1769, the base of the Santiago Hills was first traversed by the Spanish explorer Don Gaspar de Portola. In the 1830s Don Jose Andres Sepulveda began ranching operations. In 1876 James Irvine purchased and consolidated open range land stretching from the Santiago Hills to the Pacific Ocean into the Irvine Ranch. In 1971, the City incorporated, which coincided with the start of urban development of a large portion of the Irvine Ranch.

Because of its past, Irvine has many cultural resources which are protected through the policies established in this Element.

Existing Conditions

The historic and archaeological sites recorded by previous surveys are illustrated in Figure E-1. There are two sites found in the City of Irvine, Barton's Mound and the Portola Campsite at Tomato Springs, found in the California Inventory. While only two of the historic sites within the City are listed in the California Inventory of Historic Resources, many others qualify. Several of the more important sites may also qualify for listing in the National Register of Historic Places.

Paleontological investigations of the area have shown that the area (primarily Santiago Hills and San Joaquin Hills) is rich in scientifically important resources including numerous fossil deposits formed in a marine environment. The City is divided into zones according to the likely occurrence of important paleontological resources. These zones are shown on Figure E-2, Paleontological Sensitivity Zones.

Trends

With large areas of the City and sphere of influence still undeveloped, the opportunity exists to identify cultural resources of significance and develop programs for their appropriate disposition. The Irvine Company has conducted archaeological surveys covering major portions of its property. While these surveys are continuing, the opportunity exists for the City to ensure that allowances are made within proposed development plans for the proper disposition of the resources discovered.

Paleontological Sensitivity Zones

To develop Figure E-2, known fossil occurrences were identified and plotted. The locality information and past fossil production in adjacent areas was used to develop zones of similar paleontological potential or sensitivity. Four paleontological sensitivity zones were developed to group rocks with similar paleontological potential. Each zone reflects the potential for the discovery of significant fossil resources during development of a site. The proposed use of the site does not greatly affect paleontologic resources; it is the mass grading of sedimentary rocks associated with development that affects the fossils. The four sensitivity zones are:

No Sensitivity: Areas in this zone contain exposed volcanic rocks.

Low Sensitivity: Areas in this zone typically have altered or geologically young rocks exposed at the surface.

Moderate Sensitivity: Areas within this zone contain sedimentary rocks with limited histories of producing significant fossils. The limited histories may reflect the lack of fossils or lack of systematic exploration of exposures of these rock units.

High Sensitivity: This zone contains sedimentary rocks with well established histories of containing significant fossils.

Source: City of Irvine Master Environmental Assessment Appendix D.

Future loss of some cultural resources should be anticipated since alternative uses for many of the existing sites have been designated on the General Plan Land Use diagram. In addition, planned urban uses surrounding historical sites may adversely affect its historical value by altering their traditional settings. Urban uses may also raise surrounding land values so that it becomes economically unfeasible or incompatible for historic uses to remain.

Widening of existing roads may also have a negative impact on existing cultural resources. The area of Barton's Mound, a state historical landmark, was destroyed as a result of construction of the San Diego Freeway.

With the large number of known archaeological sites existing in the City and sphere of influence, and their sensitivity to urban development, destruction or covering of some of these sites should be expected to occur as well. The greatest impact would be in Upper Newport Bay and the Santiago and San Joaquin Hills where large concentrations of important sites are found.

Identification of Issues

- 1. What system should be used to identify and determine the significance of historical, archaeological, and paleontological resources?**
- 2. Who should fund the investigations, mitigations, and preservation of cultural resources if little public or private funding is available for preservation, and most existing buildings, sites, or potential sites would find it difficult to qualify for available funding?**

Response to Issues

The following objectives and policies have been established to guide the identification and preservation of cultural resources.

OBJECTIVE E-1: HISTORICAL, ARCHAEOLOGICAL, PALEONTOLOGICAL SURVEYS

Identify and obtain information on the existence and significance of historical, archaeological, and paleontological sites and encourage land use planning which incorporates this information.

The following policies support Objective E-1:

Policy (a): Require appropriate surveys and necessary site investigations in conjunction with the earliest environmental document prepared for a project, in accordance with California Environmental Quality Act (CEQA) and the City's CEQA procedures.

Policy (b): Require surveys, prior to discretionary approval, for areas where the possibility of encountering sites exists. Additional specific site investigations may also be required in order to obtain sufficient information to determine the site's significance. The project sponsor shall fund this level of investigation.

Policy (c): Require a written report be submitted to the City following a survey or investigation describing the findings and making recommendations as to the site's significance, future disposition, and the amount of further investigation which should be undertaken. Copies of site survey records and reports shall be filed with the appropriate clearinghouse.

Policy (d): Encourage, if appropriate, removal of all materials collected during the survey/investigation to local museums, universities, or other depositories providing access for public review or scientific research.

Policy (e): Funding of Archaeological Excavations: Use the following in the case of archaeological salvage excavations: 75 percent project sponsor; 25 percent City or other public or quasi-public agency or organization. The costs of other mitigation measures may also be shared by the landowner or developer, the City, and other agencies or organizations.

Policy (f): Maintain information on areas surveyed, numbers of sites located, their status and the names and addresses of individuals or organizations knowledgeable of the sites.

Policy (g): Maintain specific locations of unprotected sites as confidential information to avoid vandalism and the resultant irretrievable loss of the historic and prehistoric record of the community.

Policy (h): Determine the proper disposition of each historical site prior to approval of zoning or discretionary development applications. Disposition determinations shall be based upon a detailed historical report, including an inventory form, a written evaluation, and slides documenting the building and its location. This information shall be reviewed by staff and the approval authority for discretionary development cases. Each historical report shall be filed at the Irvine Historical Museum and the City of Irvine Community Development Department.

Policy (i): Buffer and protect the integrity of an historic site and/or resources contained therein, if the Planning Commission, during review of a discretionary development case, determines preservation is required.

OBJECTIVE E-2: HAZARD OCCURRENCE

Evaluate surveyed sites-for their present and potential cultural, educational, recreational, and scientific value to the community and the region, and determine their proper disposition prior to the approval of any project which could adversely affect them.

The following policies support Objective E-2:

Policy (a): Ensure that sites determined to be significant are protected through the City's planning policies, ordinances, approval conditions, and mitigation measures.

Policy (b): Encourage the nomination of significant historical sites to the National Registry of Historic Places.

Policy (c): Include sites which are appropriate for educational or recreational purposes as an integral part of either public or community facilities or as part of the Citywide bikeway, pedestrian, and equestrian trail systems. Encourage agencies, organizations, and individuals to develop interpretive and educational

programs in order to properly utilize the site for the benefit of the entire community.

Policy (d): Ensure that appropriate staff is available to act in matters relating to the implementation of this element to include identification of costs, and to coordinate the investigation and disposition of sites between City departments and Commissions, The Irvine Company, and other agencies, institutions, organizations, and individuals.

Policy (e): Determine the methods and means of preservation on a case-by-case basis according to a site's importance and disposition methods available. These may include public or private acquisition or one of the following, provided extreme care is exercised not to adversely affect the site:

- Including the site within greenbelts, parks, open space spines, preservation areas or other open space.
- Covering surface or sub-surface sites by adequate fill, pavement, or buildings.
- Using the site for nondestructive public interest or educational purposes, such as museums, interpretive centers, or outdoor classrooms.
- Moving buildings for preservation as part of a consolidated historic site.
- Using significant historic buildings in a preserved state as a part of their functional capacity (e.g., a building preserved and used as an office, restaurant, or home).

Policy (f): Encourage site preservation through economic incentives such as increased building densities, reduced taxes, credit toward park dedication, or reduction of other amenity requirements. Where incentives are not sufficient, the land owner shall be directly compensated by the City or other public or quasi-public agencies or organizations for land preserved as an archaeological, paleontological, or historical site. The costs of site preservation may be the principal responsibility of the City, other public, or quasi-public agencies, or other organizations.

Policy (g): Ensure that adverse impacts of a proposed project on cultural resources are mitigated in accordance with CEQA, as well as other appropriate City policies and procedures, where preservation of a significant site is not practical.

Policy (h): Assign the Community Services Commission the responsibility to oversee implementation programs for sites or buildings which have been acquired by the City.

Policy (i): Identify and implement revenue sources which can be expended in support of this objective.

Policy (j): Undertake a comprehensive survey to inventory the remaining historical resources within the City of Irvine incorporated territory and adopted Sphere of Influence, including the location and significance of all remaining tenant farm homes over 50 years of age. This survey shall be used to determine the appropriate disposition of the resources located within any area not designated for preservation as a historical resource.

RELATED OBJECTIVE NUMBERS

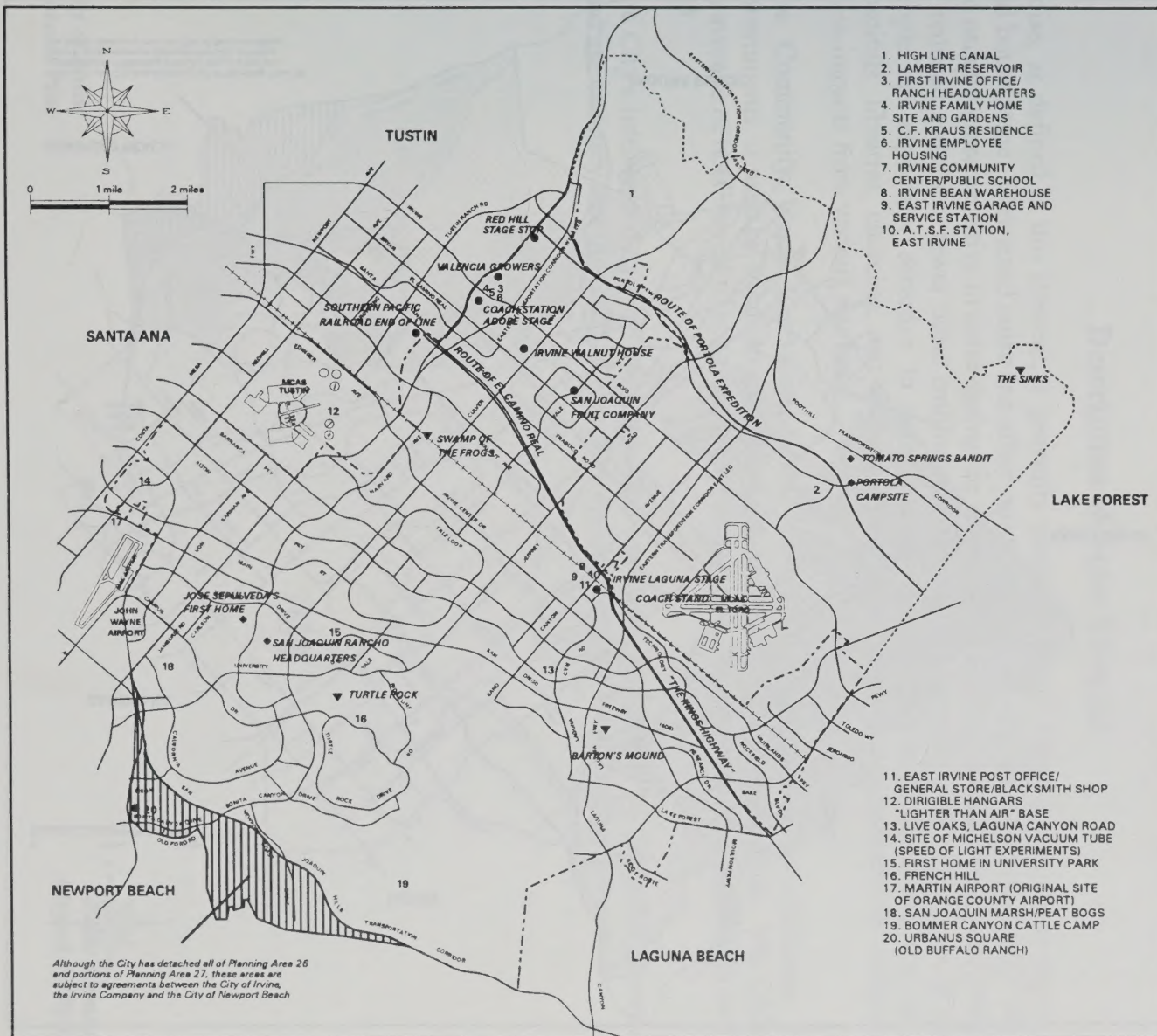
The following objectives are related to the Cultural Resources Element:

Land Use Element - A-2

Public Facilities and Services Element - G-1

Conservation and Open Space Element -L-5, L-6

Revisions:	Date	GPA	Resolution #
	03/09/99	18930-GA	99-29



City of Irvine General Plan



Figure E-1

HISTORICAL/ ARCHAEOLOGICAL LANDMARKS

LEGEND

- City Sphere of Influence
- City Boundary
- ◆ Existing Sites
- Formerly Existing Sites
- ▼ Landform Site

Date
Adopted: 3/9/99

City Council
Resolution: 99-29

City of Irvine General Plan

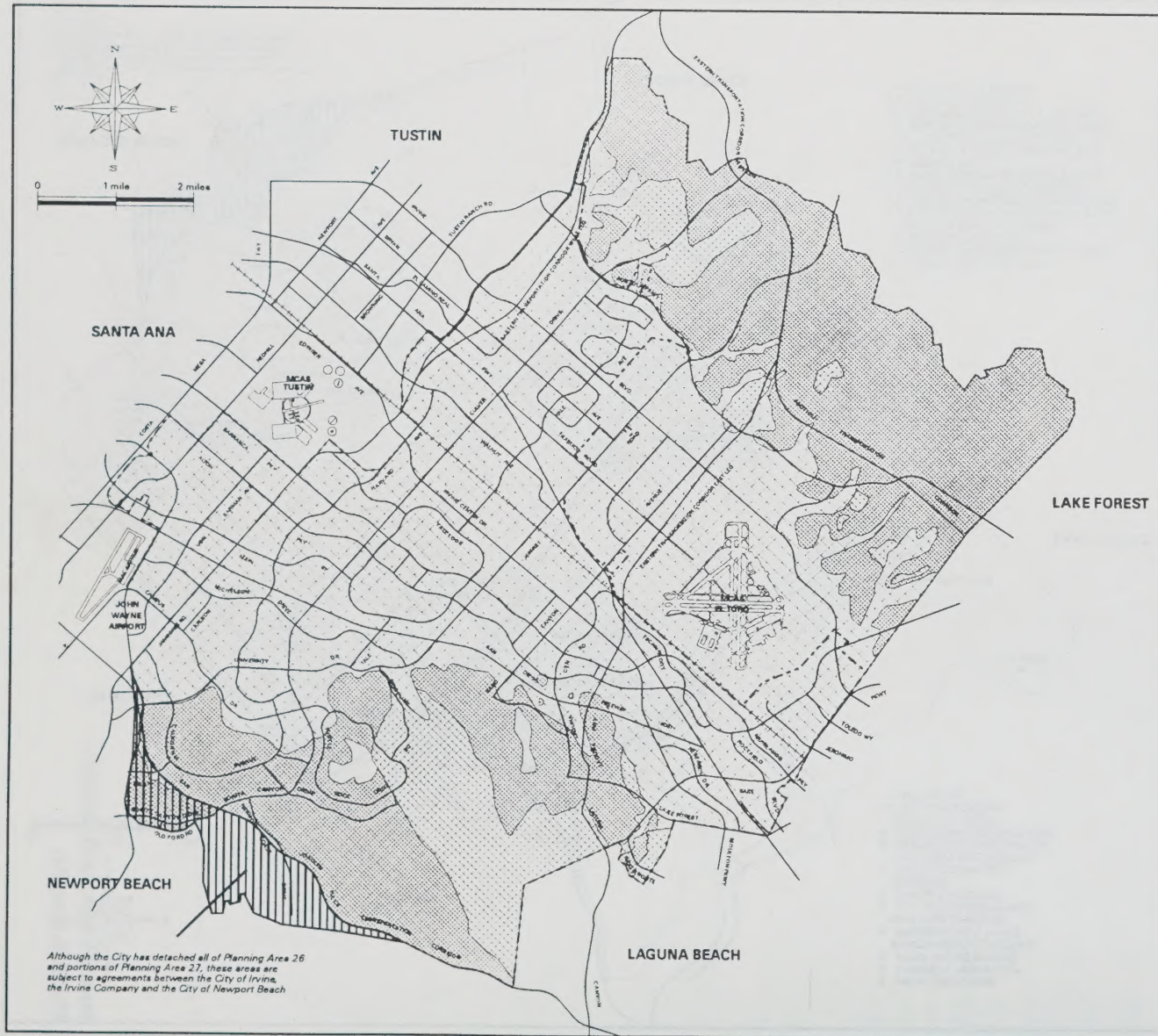


Figure E-2

PALEONTOLOGICAL SENSITIVITY ZONES

LEGEND

- City Sphere of Influence
- City Boundary
- None
- Low
- Moderate
- High



Date
Adopted: 3/9/99

City Council
Resolution: 99-29

ELEMENT F

NOISE

GOAL: Contribute to a healthy and safe environment by minimizing noise impacts.

Description of Noise Element

Noise, as defined in this element, is generally unwanted sound which is considered unpleasant and bothersome. Unwanted noise can affect people both physically and psychologically. People are usually more sensitive to noise during the evening and nighttime than during the day because of reduced activities, fewer noise emitting sources, and the need for rest. Land uses in which people are especially sensitive to noise include residential, convalescent and rest homes, hospitals, libraries, churches, and schools. This element provides guidelines for minimizing noise impacts from various sources.

The Community Noise Equivalent Level (CNEL), commonly used by California local governments, is used by Irvine to quantify community noise levels and standards. The CNEL is an average of noise levels over a twenty-four hour period. Refer to technical definitions on Page F-3.

The City's interior and exterior noise standards are shown on Table F-1. Table F-2 shows each land use category and the CNEL which is compatible with the uses in the category.

Existing Conditions

The most pervasive noise in Irvine comes from mobile noise sources such as motor vehicles, railroads, and aircraft. Three major freeways, one railroad line, and three airports expose the City to significant noise impacts. Aircraft flight tracks also impact particular areas of the City significantly. The City is also exposed to noise emanating from sources such as industrial, commercial, and construction activities.

Unwanted noise is divided into two major categories of noise sources - mobile and stationary.

1. Mobile Noise Sources.

Mobile sources are transportation-related (non-fixed) including motor vehicles, railroad, and aircraft. Motor vehicle noise is characterized by a high frequency of events, short duration, and proximity to areas sensitive to noise exposure. Rail transit and aircraft operations frequently generate extremely high noise levels which are disruptive to human activity.

a. Motor Vehicles.

Sources of vehicular traffic noise are automobiles, buses, trucks, and motorcycles. Noise is generated by engines, exhaust systems, transmissions, fans, tires, and air movement. The noise level is relatively constant on major roads where traffic is heavy and intermittent on neighborhood streets where traffic is lighter.

Table F-3 describes vehicular noise impacts for both the existing and buildout condition

b. Railroads.

Railroad noise is the result of the mechanical processes of the engine, the interaction of the wheels with the track, and use of the whistle. The amount of noise generated is dependent upon the speed of the train and the number of cars.

Railway lines that pass through the central part of the City in an east/west direction are located on right-of-way that is owned and managed by the Orange County Transportation Authority. The railroad operation includes commuter trains and freight trains. The number of freight trains depends on economic demand. There are also spur lines located IBC (Planning Area 36), and Irvine Industrial Complex-East (Planning Area 35). The noise generated by these spur lines is insufficient to provide CNEL contours in excess of 60 dB outside the right-of-way.

c. Aircraft.

Aircraft noise generally affects areas within the airport vicinity during takeoffs and landings, and areas located around the flight tracks. Airborne noise sources in Irvine include aircraft operations at MCAS El Toro, helicopter operations at MCAS Tustin, and civil air operations at John Wayne Airport.

Definitions

Community Noise Equivalent Level (CNEL): The CNEL is an average of noise levels over a twenty-four (24) hour period. The measured energy equivalent level (Leq) is weighted for the hours when there is a greater sensitivity to noise. A weighting factor of 5 decibels is applied to the evening period (7 to 10 p.m.) and a weighting factor of 10 decibels is applied to the night time period (10 p.m. to 7 a.m.). The daytime Leqs between 7 a.m. and 7 p.m. are not weighted.

Decibel: dB, a numerical expression of the relative intensity of a sound as it is heard by the human ear.

dBA: The "A-weighted" scale for measuring sound in decibels, it weighs or reduces the effects of low and high frequencies in order to simulate human hearing. Every increase of 10 dBA doubles the perceived loudness although the noise is actually ten times more intense.

Leq: The energy equivalent level, defined as the average sound level on the basis of sound energy. The Leq is a "dosage" type measure and is the basis for the descriptors used in current standards, such as the 24-hour Community Noise Equivalent Level (CNEL) used by the State of California.

MCAS El Toro: The major aircraft noise source in Irvine is MCAS El Toro, which is located in Planning

Area 51. The most recent noise study for MCAS El Toro was adopted in 1981 by the Marine Corps as part of the Air Installation Compatible Use Zone (AICUZ) Study.

The noise levels were based on noise characteristics of aircraft as

Standards

Interior and Exterior Noise Standards: Table F-1 identifies the maximum interior and exterior noise levels for each land uses category. The standards assume the incorporation of California State Law requirements into all projects.

Land Use Noise Compatibility Table F-2 identifies the compatibility of proposed projects and future noise levels. The diagram is used in evaluating new development projects, including General Plan amendments, zone changes, tentative maps, conditional use permits and master plans.

Single Event Noise Standard: The maximum interior noise levels of the loudest 10% of single noise events [L_{max}(10)] for noise sensitive land uses within the 60 CNEL of aircraft and railroad noise sources shall not exceed 65 dBA between 7 a.m. and 7 p.m. ~~and less than~~ nor 55 dBA between 7 p.m. and 7 a.m. for typical occupancy. (Note: The samples for single event noise measurement must include representative aircraft operation.)

measured by the military, and annual operations data (number and type of aircraft movements, and flight tracks), according to the Marine Corps' records. The final position of the computed CNEL contours was verified by several site specific studies outside of Irvine. Field measurements will occur in conjunction with sensitive land uses to assess impacts of aircraft noise together with other noise sources (e.g. vehicular).

MCAS El Toro is scheduled to close by July 1999. In its place, the County of Orange has proposed a commercial airport, which may have an impact on aircraft noise as well as vehicular noise. The City of Irvine does not support a commercial airport.

The El Toro Reuse Planning Authority which consists of the cities of Irvine, Mission Viejo, Laguna Hills, Lake Forest, Laguna Beach, Dana Point and Laguna Niguel, has prepared the Millennium Plan for the reuse of El Toro. The Millennium Plan consists of a mix of nonaviation land uses which may have different vehicular and stationary noise levels than currently associated with military activities at MCAS El Toro.

MCAS Tustin: The noise from helicopter operations at MCAS Tustin also affects the City. The City presently uses the AICUZ noise contour map as depicted in the 1983 Master Plan, for MCAS Tustin, for the assessment of the helicopter noise impacts. Figure F-1 depicts existing helicopter overflight corridors.

MCAS Tustin is scheduled to close in 1999. This will eliminate aircraft noise but the land uses that could be developed in its place may increase vehicular and stationary noise.

John Wayne Airport: The John Wayne Airport noise contour map, prepared annually by the Noise Abatement Center of John Wayne Airport, is used for the assessment of aircraft noise impacts. Annual updates of the original 1980 John Wayne Airport noise contour map, are used for planning analysis.

Figure F- 2 illustrates the noise contours for MCAS El Toro, MCAS Tustin and John Wayne Airport.

2. Stationary Noise Sources.

Stationary noise sources are the noise sources in the community such as industrial and mechanical equipment, which are often referred to as "fixed sources." Industrial noise generated by processing and operation is usually of long duration at relatively low frequencies. Construction sources generate high noise levels for extended periods of time. Examples include: rock crushers; mechanical electric equipment such as air conditioners or refrigeration units; various power tools such as lawn mowers or leaf blowers; construction activities; commercial or industrial activities such as car wash facilities; animal noise; and human-related activities such as loud parties, loud music, radio, T.V., or children playing.

The City's Noise Ordinance establishes the maximum permissible noise level which may intrude into a neighbor's property. The Ordinance (adopted in 1975 and revised in 1984) establishes noise level standards for various land

use categories being affected by stationary noise sources. The ordinance regulates the timing of construction activities and includes special provisions for sensitive land uses.

Trends

1. Mobile Noise Sources.

a. Motor Vehicles.

Motor vehicle noise will continue to be significant. Irvine will also be impacted by through traffic from yet-to-be-developed areas to the south, east and west. An increased use of convenient mass transit systems may contribute to noise reduction. Future motor vehicle noise is shown in Figure F- 3.

b. Railroads.

It is expected that over the years there will be an increase in railroad traffic especially as commuter trains are added along the Los Angeles-San Diego (LOSSAN) corridor. Future railroad noise is shown in Table F-3.

c. Aircraft.

It is expected that over the years noise impacts to the City from aircraft operations at MCAS El Toro, MCAS Tustin, and John Wayne Airport will not increase because of agreements restricting the number of flights, hours of noise, and aggregate noise. For example, the City has a

Memorandum of Understanding with the Marine Corps with respect to aircraft noise and operations. Also, based on the State Airport Noise Regulation (Title 21), John Wayne Airport (as a civil airport) is required to reduce the airport noise impact on existing communities.

2. Stationary Noise Sources.

As the City develops further, it is expected that stationary noise levels will increase. However, noise impacts can be mitigated by use of control measures and enforcement of the Noise Ordinance in the development process.

Identification of Issues

- 1. How can the City ensure that residents are not exposed to excess mobile noise levels?**
- 2. How can the City ensure that residents are not exposed to excess stationary noise levels?**
- 3. How can these regulations be coordinated to provide a healthy noise environment?**
- 4. How can public awareness in this area be increased?**

Response to Issues

The following objectives and policies have been formulated as a policy response to the identified noise issues.

OBJECTIVE F-1: MOBILE NOISE

Ensure that City residents are not exposed to mobile noise levels in excess of the CNEL Interior and Exterior Noise Standards (Table F-1), and Single Event Noise Standard.

The following policies support Objective F-1:

Policy (a): Require all plans submitted for development review to existing noise contours, future noise contours and aircraft noise contours.

Policy (b): Prohibit residential development within the 65 CNEL of aircraft noise contours.

Policy (c): Ensure that all proposed development projects are compatible with the existing and projected noise level by using the Land Use Noise Compatibility Matrix (Table F-2).

Policy (d): Require noise studies to be prepared in accordance with the City's environmental review procedure for all projects that are not "clearly compatible" with the future noise level at the site.

Policy (e): Require noise studies to use the future motor vehicle noise reduction of 1.9 dBA in identifying future noise levels of streets.

Policy (f): Require noise studies to identify all the mitigation measures necessary to

reduce noise levels to meet the CNEL standard (Table F-1) and Single Event Noise Standard.

Policy (g): Require compliance with Single Event Noise Standard for noise sensitive land uses within the 60 CNEL of aircraft and railroad noise contours.

Policy (h): Require conditional use permits for noise sensitive land uses such as hospitals, libraries, churches, and schools to mitigate noise-related impacts.

Policy (i): Update highway/railroad noise levels (Table F-3) every five years and/or whenever the City's Irvine Traffic Analysis Model (ITAM) has been significantly changed.

Policy (j): Ensure that any proposal to update aircraft noise contours used by the City of Irvine for planing analysis is submitted, prior to adoption by the City, to the Airport Land Use Commission

Policy (k): Cooperate with MCAS El Toro in further defining the AICUZ requirements to minimize impacts.

Policy (l): Incorporate the following types of noise mitigation measures in the design of new highways and streets: alignment, barriers, lateral separation, and vertical profile.

Policy (m): Examine the existing and projected future noise environment when considering amendments to the City's circulation system.

Policy (n): Reduce noise impacts from mobile sources by encouraging use of alternative modes of transportation

Policy (o): Reduce railroad noise impacts to new development by incorporating measures for mitigating noise levels to meet the City's noise standards.

Policy (p): Participate in cooperative efforts with Orange County Transit Authority to fund and construct grade separations, where feasible, through residential areas of the City, giving consideration to all potential funding sources.

OBJECTIVE F-2: STATIONARY NOISE

Ensure that City residents are not exposed to stationary noise levels in excess of the City Noise Ordinance standards.

The following policies support Objective F-2:

Policy (a): Require any new construction to meet the City Noise Ordinance standards as a condition of building permit approval.

Policy (b): Require developers to depict, on any appropriate development application review (zone change, subdivisions, conditional use permit, site plan, and building plans), any potential noise sources known at the time of submittal and mitigation measures that ensure these noise sources meet the City Noise Ordinance standards. Such sources include, but are not limited to, the following:

- Truck pickup and loading areas.

- Mechanical and electrical equipment such as air conditioning, swimming pool pumps and filters, and spa pumps.

Policy (c): Exterior nuisances such as speaker boxes and outdoor public address systems. Condition subdivision approval of the projects adjacent to any developed/occupied uses by requiring the developer to submit a construction-related noise mitigation plan to the Director of Community Development for review and approval prior to issuance of grading permits. The plan must depict the location of construction equipment and how the noise from this equipment will be mitigated during construction of the project, through the use of such methods as following:

- Temporary noise attenuation fences.
- Preferential location of equipment.
- Use of current technology and noise suppression equipment.

TABLE F-1
INTERIOR AND EXTERIOR NOISE STANDARDS
ENERGY AVERAGE (CNEL)

LAND USE CATEGORIES		ENERGY AVERAGE (CNEL)	
CATEGORIES	USES	INTERIOR ⁽¹⁾	EXTERIOR ⁽²⁾
RESIDENTIAL	Single-Family	45 ⁽³⁾	55 ⁽⁴⁾
	Multiple-Family		65
	Mobile Home	_____	65 ⁽⁵⁾
COMMERCIAL/ INDUSTRIAL	Hotel, motel, transient lodging	45	65 ⁽⁶⁾
	Commercial, retail, bank, restaurant	55	_____
	Office building, professional office, research & development	50	_____
	Amphitheater, concert hall, auditorium, meeting hall	45	_____
	Gymnasium (Multipurpose)	50	_____
	Health clubs	55	_____
	Manufacturing, warehousing, wholesale, utilities	65	_____
	Movie theater	45	_____
INSTITUTIONAL	Hospital, school classroom	45	65
	Church, library	45	_____
OPEN SPACE	Parks	_____	65

Interpretation:

1. Interior environment excludes bathrooms, toilets, closets, and corridors.
2. Outdoor environment limited to private yard of single-family; multi-family residences private patio or balcony which is accessed by a means of exit from inside the unit; mobile home park; hospital patio; park picnic area; school playground; and hotel and motel recreation area.
3. Noise level requirement with closed windows. Mechanical ventilating system or other means of natural ventilation shall be provided pursuant to Appendix Chapter 12, Section 1208 of UBC.
4. Noise level requirement with open windows, if they are used to meet natural ventilation requirement.
5. Exterior noise level shall be such that interior noise level will not exceed 45 CNEL.
6. Except those areas affected by aircraft noise.

TABLE F-2
LAND USE NOISE COMPATIBILITY

<u>LAND USE CATEGORIES</u>		<u>ENERGY AVERAGE (CNEL)</u>						
<u>Categories</u>	<u>Uses</u>	<u>≤</u>	<u>55</u>	<u>60</u>	<u>65</u>	<u>70</u>	<u>75</u>	<u>80 ></u>
RESIDENTIAL	Single-Family	A	A	B	B	C	D	D
RESIDENTIAL	Mobile Home	A	A	B	C	C	D	D
COMMERCIAL Regional	Hotel, Motel, Transient Lodging	A	A	B	B	C	C	D
COMMERCIAL Regional Community	Commercial retail, Bank, Restaurant, Movie theater	A	A	A	A	B	B	C
COMMERCIAL Community INDUSTRIAL & INSTITUTIONAL	Office building, Research & development Professional office, City office building	A	A	A	B	B	C	D
COMMERCIAL Recreation INSTITUTIONAL General	Amphitheater, Concert hall Auditorium, Meeting hall	B	B	C	C	D	D	D
COMMERCIAL Recreation	Children's amusement park, Miniature golf, Go-cart track, Health club, Equestrian center	A	A	A	B	B	D	D
COMMERCIAL Community INDUSTRIAL General	Automobile service station, Auto dealer, Manufacturing, Warehousing, Wholesale, Utilities	A	A	A	A	B	B	B
INSTITUTIONAL General	Hospital, Church, Library, School classrooms	A	A	B	C	C	D	D
OPEN SPACE	Parks	A	A	A	B	C	D	D
OPEN SPACE	Golf courses, Nature centers, Cemeteries, Wildlife reserves, Wildlife habitat	A	A	A	A	B	C	C
AGRICULTURAL	Agriculture	A	A	A	A	A	A	A

Interpretation

Zone A Clearly Compatible	Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction without any special noise insulation requirements.
Zone B Normally Compatible	New construction or development should be undertaken only after detailed analysis of the noise reduction requirements are made and needed noise insulation features in the design are determined. Conventional construction, with closed windows and fresh air supply systems or air conditioning, will normally suffice.
Zone C Normally Incompatible	New construction or development should normally be discouraged. If new construction or development does proceed, a detailed analysis or noise reduction requirements must be made and needed noise insulation features must be included in the design
Zone D Clearly Incompatible	New construction or development should generally not be undertaken.

Noise Mitigation Measure Definitions

Alignment: In the context of highway noise assessment, the three-dimensional position of the road.

Barriers: Any solid material that shields a receiver from a given source of noise. Types of barriers include walls, berms, hills and intervening structures. Most often, the term "noise barrier" refers specifically to sound walls or berms intentionally placed in such a way as to re-direct noise away from receiver locations (e.g., sound walls along a highway).

Lateral separation: The horizontal distance between the road and a receiver. With new roadway construction, there is sometimes the flexibility to position the alignment within the right of way in such a way as to maximize the lateral separation (or buffer) between the road (noise source) and the nearest receivers (e.g., residences).

Vertical Profile: The path of a roadway in the vertical direction. Roadways can be designed to be below-grade (depressed), above-grade (elevated), or at-grade relative to areas adjacent to the road. Generally, traffic noise levels along depressed roadways are substantially lower than those along roadways that are at grade. Elevated roadways also reduce traffic noise (relative to at-grade conditions) but only within the first few hundred feet of the road.

OBJECTIVE F-3: NOISE ABATEMENT

Achieve maximum efficiency in noise abatement efforts through intergovernmental coordination and public information programs.

The following policies support Objective F-3:

Policy (a): Coordinate efforts to reduce noise impacts with appropriate public and government agencies.

Policy (b): Monitor federal and state legislation and programs which will reduce noise in Irvine.

Policy (c): Use police power to enforce the appropriate noise standards in the state's motor vehicle code and other state and federal legislation for mobile noise sources.

Policy (d): Encourage appropriate agencies to maximize the use of noise reducing equipment in the City.

Policy (e): Seek the cooperation of aircraft regulatory agencies in the modification and selection of flight paths which will reduce noise impacts on residential and other noise sensitive areas.

Policy (f): Monitor and update, as needed, the City Noise Ordinance so that it will continue to be-effective in restricting noise from stationary sources.

Policy (g): Disseminate public information regarding City noise regulations and programs, the health effects of high noise levels, and means of mitigating such levels.

Stationary Sources: See City Noise Ordinance Standards

RELATED OBJECTIVE NUMBERS

The following objectives are related to the Noise Element:

Land Use Element - A-1, A-6

Circulation Element - B-2, B-8

Housing Element - C-2

Public Facilities and Services Element - G-1

Conservation and Open Space Element - L-9

Date	GPA	Resolution Number
03/09/99	18930-GA	99-29

Table F-3
VEHICULAR TRAFFIC NOISE LEVEL AND NOISE CONTOUR COMPARISON

Roadway Segment	Existing Conditions		2020 Buildout Condition	
	CNEL Noise Level (@ 100 ft from ctrline)	Distance to 65 CNEL Noise Contour (in feet)	CNEL Noise Level (@ 100 ft from ctrline)	Distance to 65 CNEL Noise Contour (in feet)
Alton Parkway				
Barranca/Muirlands Blvd. to Jeronimo Rd.	71.4	267	72.0	293
Jeronimo Road/Toledo Way	70.7	240	70.5	233
Toledo Way/Irvine Boulevard	66.9	134	70.0	215
Irvine Boulevard/North City Limits	--	--	71.0	251
SR 55/Red Hill Avenue	61.3	57	69.3	193
Red Hill Avenue/Von Karman Avenue	66.8	132	70.2	222
Von Karman Avenue/Jamboree Road	66.3	122	70.7	240
Jamboree Road/Harvard Avenue	67.4	145	71.5	271
Harvard Avenue/Culver Drive	68.9	182	69.6	203
Culver Drive/West Yale Loop	67.7	151	69.0	185
West Yale Loop/Lake Road	68.0	158	68.7	176
Lake Road/Creek Road	69.0	185	69.4	196
Creek Road/East Yale Loop	68.3	166	69.5	200
East Yale Loop/Jeffrey Road	68.2	163	69.6	203
Jeffrey Road/Sand Canyon Avenue	68.9	182	72.3	307
Sand Canyon/Future Laguna Canyon Rd.	69.4	196	71.9	288
Future (Link)/SR 133	69.4	196	71.0	251
SR 133/Irvine Center Drive	68.6	174	70.2	222
I-5/West Technology Drive	69.1	188	72.2	302
Future Rockfield to Barranca/Muirlands	72.8	331	70.9	247
Barranca Parkway/Muirlands Boulevard				
Red Hill Avenue/Von Karman Avenue	69.6	203	72.4	311
Von Karman Avenue/Jamboree Road	69.2	191	73.1	347
Jamboree Road/Harvard Avenue	67.8	154	70.9	247
Harvard Avenue/Culver Drive	68.9	182	69.5	200
Culver Drive/West Yale Loop	67.7	151	68.3	166
West Yale Loop/Lake Road	67.3	142	68.2	163
Lake Road/Creek Road	67.3	142	68.0	158
Creek Road/East Yale Loop	66.7	130	67.6	149
East Yale Loop/Jeffrey Road	66.5	126	68.8	179
Jeffrey Road/Future	--	--	69.5	200
Future/Sand Canyon Avenue	--	--	69.2	191
Sand Canyon/Future Laguna Canyon Rd.	61.7	60	71.0	251
Future (Link)/SR 133	61.7	60	69.7	206
SR 133/Irvine Center Drive	66.3	122	69.7	206
Irvine Center Drive/I-5	67.2	140	70.7	240
I-5 Freeway/Alton Parkway	69.4	196	69.8	209
Alton Parkway/Bake Parkway	69.2	191	66.4	124

(Continued on the next page)

Table F-3

VEHICULAR TRAFFIC NOISE LEVEL AND NOISE CONTOUR COMPARISON

Roadway Segment	Existing Conditions		2020 Buildout Condition	
	CNEL Noise Level (@ 100 ft from ctrline)	Distance to 65 CNEL Noise Contour (in feet)	CNEL Noise Level (@ 100 ft from ctrline)	Distance to 65 CNEL Noise Contour (in feet)
Bison Avenue				
MacArthur Boulevard/Newport Coast Drive	--	--	69.1	188
Newport Coast Drive/California Avenue	59.0	40	65.8	113
Bonita Canyon Drive				
Newport Coast Drive/Culver Drive	65.5	108	71.1	255
Culver Drive/Sunnyhill	60.2	48	66.6	128
Bryan Avenue				
Culver Drive/Westwood	65.4	106	66.0	117
Westwood/Yale Avenue	63.0	74	66.0	117
Yale Avenue/Eastwood	62.1	64	65.5	108
Eastwood/Jeffrey Road	62.1	64	65.5	108
California Avenue				
University Drive/Bison Avenue	62.7	70	66.8	132
Bison Avenue/Palo Verde Road	--	--	62.3	66
Palo Verde Road/Campus Drive	--	--	65.8	113
Campus Drive/Harvard Avenue	61.1	55	65.7	111
Campus Drive				
MacArthur Blvd./Von Karman Ave.	65.5	108	67.6	149
Von Karman Ave./Jamboree Road	65.1	102	66.6	128
Jamboree Road/University Drive	68.4	169	69.2	191
University Drive/Culver Drive	67.3	142	70.3	226
Culver Drive/Turtle Rock Drive	66.9	134	68.9	182
Creek Road				
Barranca Parkway/Alton Parkway	58.2	35	68.3	166
Culver Drive				
Irvine Boulevard/Bryan Avenue	65.3	105	70.3	226
Bryan Avenue to I-5/Trabuco Road	70.3	226	71.4	267
I-5/Trabuco Road to Walnut Avenue	69.2	191	72.0	293
Walnut Avenue/Irvine Center Drive	71.4	267	71.5	271
Irvine Center Drive/Warner Avenue	71.9	288	72.7	326
Warner Avenue/Barranca Parkway	71.6	275	72.2	302
Barranca Parkway/Alton Parkway	70.9	247	72.1	297
Alton Parkway/Main Street	71.5	271	72.2	302
Main Street/San Diego Freeway (I-405)	71.6	275	71.9	288
San Diego Freeway (I-405)/Michelson Dr.	70.5	233	72.0	293
Michelson Drive/University Drive	70.1	219	71.8	284
University Drive/Harvard Avenue	68.8	179	71.3	263
Harvard Avenue/Campus Drive	67.5	147	70.2	222
Campus Drive/Bonita Canyon Drive	62.9	72	70.3	226

(Continued on the next page)

Table F-3**VEHICULAR TRAFFIC NOISE LEVEL AND NOISE CONTOUR COMPARISON**

Roadway Segment	Existing Conditions		2020 Buildout Condition	
	CNEL Noise Level (@ 100 ft from ctrline)	Distance to 65 CNEL Noise Contour (in feet)	CNEL Noise Level (@ 100 ft from ctrline)	Distance to 65 CNEL Noise Contour (in feet)
East Yale Loop				
Yale Avenue/Barranca Parkway	65.4	106	63.4	78
Barranca Parkway/Alton Parkway	64.6	94	64.2	88
Alton Parkway/West Yale Loop	65.8	113	66.1	118
Ford Road				
MacArthur Boulevard/San Miguel Drive	66.5	126	65.5	108
San Miguel Drive/Newport Coast Drive	--	--	68.2	163
Harvard Avenue				
Walnut Avenue/Irvine Center Drive	64.2	88	66.1	118
Irvine Center Drive/Warner Avenue	66.9	134	65.2	103
Warner Avenue/Barranca Parkway	66.8	132	65.9	115
Barranca Parkway/Alton Parkway	66.5	126	64.4	91
Alton Parkway/Main Street	66.7	130	69.7	206
Main Street/Michelson Drive	66.7	130	70.4	229
Michelson Drive/University Drive	67.0	136	67.5	147
University Drive/California Avenue	65.1	102	68.0	158
Irvine Center Drive				
Harvard Avenue/Culver Drive	68.6	174	71.2	259
Culver Drive/Yale Avenue	69.4	196	71.6	275
Yale Avenue/Jeffrey Road	68.1	161	71.4	267
Jeffrey Road/Future	69.6	203	71.2	259
Future/Sand Canyon Avenue	69.8	209	71.1	255
Sand Canyon Avenue/Barranca Parkway	69.1	188	73.5	369
Barranca Parkway/Alton Parkway	67.2	140	71.9	288
Alton Parkway/San Diego Freeway (I-405)	70.7	240	70.6	236
Future/Bake Parkway	73.3	358	74.4	423
Irvine Boulevard				
Culver Drive/Yale Avenue	70.5	233	72.4	311
Yale Avenue/Jeffrey Road	70.3	226	71.7	280
West of Alton Parkway	70.5	233	71.2	259
Alton Parkway/Bake Parkway	70.1	219	68.8	179
Jamboree Road				
San Diego Freeway (I-405)/Michelson Dr.	72.6	321	73.7	380
Michelson Drive/Campus Drive	72.1	297	72.5	316
Santa Ana Freeway (I-5)/Walnut Avenue	72.0	293	73.4	363
Walnut Avenue/Railroad Tracks	71.9	288	76.8	612
(Continued on the next page)				

Table F-3

VEHICULAR TRAFFIC NOISE LEVEL AND NOISE CONTOUR COMPARISON

Roadway Segment	Existing Conditions		2020 Buildout Condition	
	CNEL Noise Level (@ 100 ft from ctrline)	Distance to 65 CNEL Noise Contour (in feet)	CNEL Noise Level (@ 100 ft from ctrline)	Distance to 65 CNEL Noise Contour (in feet)
Jamboree Road (Continued)				
Warner Avenue/Barranca Parkway	71.5	271	76.9	621
Barranca Parkway/Alton Parkway	69.6	203	73.9	392
Alton Parkway/Main Street	71.4	267	73.2	352
Main Street/San Diego Freeway (I-405)	72.4	311	73.1	347
Jeffrey Road/University Drive				
Irvine Boulevard/Bryan Avenue	68.6	174	69.5	200
Trabuco Road/Santa Ana Freeway (I-5)	69.4	196	69.7	206
Santa Ana Freeway (I-5)/Walnut Avenue	69.4	196	70.1	219
Walnut Avenue/Irvine Center Drive	70.1	219	72.1	297
Irvine Center Drive/Barranca Parkway	70.7	240	71.9	288
Barranca Parkway/Alton Parkway	69.3	193	71.5	271
Alton Parkway/San Diego Freeway (I-405)	71.7	280	73.2	352
San Diego Freeway (I-405)/Michelson Dr.	71.3	263	70.7	240
Michelson Drive/Ridgeline Drive	69.7	206	71.7	280
Ridgeline Drive/Yale Avenue	68.4	169	68.7	176
Yale Avenue/Culver Drive	70.0	215	70.1	219
Culver Drive/Harvard Avenue	69.0	185	71.3	263
Harvard Avenue/Campus Drive	69.3	193	72.8	331
Campus Drive/MacArthur Boulevard	68.5	171	72.7	326
Jeronimo Road				
Alton Parkway/Bake Parkway	66.1	118	67.7	151
Laguna Canyon Road				
Barranca Parkway/Alton Parkway	62.7	70	69.0	185
Alton Parkway/Laguna Freeway (SR 133)	62.7	70	71.5	271
Laguna Freeway (SR 133)/Lake Forest Dr.	--	--	69.0	185
Laguna Freeway (SR 133)/Bake Parkway	--	--	74.2	411
Laguna Freeway (SR 133)				
Santa Ana Freeway (I-5)/Barranca Parkway	69.6	203	77.9	724
San Diego Fwy (I-405)/Laguna Canyon Rd.	71.2	259	76.0	541
Lake Forest Drive				
Laguna Canyon Road/Future Bake Parkway	--	--	70.6	236
Future Bake Parkway/East City Limits	--	--	71.8	284
Lake Road				
Barranca Parkway/Alton Parkway	61.9	62	71.5	271
MacArthur Boulevard				
Costa Mesa Freeway (SR 55)/Red Hill Ave.	70.4	229	72.2	302
Red Hill Avenue/Main Street	68.9	182	73.2	352
(Continued on the next page)				

Table F-3
VEHICULAR TRAFFIC NOISE LEVEL AND NOISE CONTOUR COMPARISON

Roadway Segment	Existing Conditions		2020 Buildout Condition	
	CNEL Noise Level (@ 100 ft from ctrline)	Distance to 65 CNEL Noise Contour (in feet)	CNEL Noise Level (@ 100 ft from ctrline)	Distance to 65 CNEL Noise Contour (in feet)
MacArthur Boulevard (Continued)				
Main Street/San Diego Freeway (I-405)	71.6	275	74.4	423
San Diego Freeway (I-405)/Michelson Dr.	70.1	219	71.7	280
Michelson Drive/Campus Drive	69.8	209	75.1	471
Jamboree Road/University Drive	68.4	169	75.1	471
University Drive/Newport Coast Drive	73.9	392	72.8	331
Newport Coast Drive/Bison Avenue	74.4	423	73.9	392
Bison Avenue/Ford Road	74.5	430	74.0	398
Main Street				
SR 55/Red Hill Avenue	67.0	136	71.5	271
Red Hill Avenue/MacArthur Boulevard	67.7	151	71.5	271
MacArthur Blvd./Von Karman Avenue	69.2	191	71.6	275
Von Karman Avenue/Jamboree Road	68.1	161	71.7	280
Jamboree Road/Harvard Avenue	67.1	138	69.2	191
Harvard Avenue/Culver Drive	66.1	118	67.5	147
Culver Drive/West Yale Loop	65.0	100	64.4	91
Michelson Drive				
MacArthur Blvd./Von Karman Avenue	66.3	122	65.1	102
Von Karman Avenue/Jamboree Road	65.4	106	68.0	158
Jamboree Road/Harvard Avenue	66.7	130	71.8	284
Harvard Avenue/Culver Drive	66.1	118	69.1	188
Culver Drive/West Yale Loop	63.1	75	63.1	75
Yale Avenue/University Drive	62.3	66	63.2	76
Sand Canyon Ave./Laguna Canyon Road	--	--	63.1	75
Red Hill Avenue				
Barranca Parkway/Alton Parkway	69.5	200	72.6	321
Alton Parkway/MacArthur Boulevard	70.7	240	72.8	331
MacArthur Boulevard/Main Street	66.8	132	69.2	191
Main Street/San Diego Freeway (I-405)	67.4	145	72.0	293
Ridgeline Drive				
University Drive/Turtle Rock Drive	66.9	134	66.6	128
Rockfield Boulevard				
Alton Parkway/Thomas	--	--	65.4	106
Thomas/Bake Parkway	60.9	53	65.4	106
Bake Parkway/East City Limits	68.7	176	70.7	240
Sand Canyon Avenue				
North of Marine Way	66.9	134	68.6	174
Prop. Laguna Canyon Fwy/Irvine Center Dr.	65.0	100	68.5	171
Irvine Center Drive/Barranca Parkway	66.4	124	68.6	174
Barranca Parkway/Alton Parkway	66.2	120	68.8	179
Alton Parkway/San Diego Freeway (I-405)	66.8	132	72.0	293
San Diego Fwy (I-405)/Fut. Michelson Dr.	--	--	67.4	145

(Continued on the next page)

Table F-3

VEHICULAR TRAFFIC NOISE LEVEL AND NOISE CONTOUR COMPARISON

Roadway Segment	Existing Conditions		2020 Buildout Condition	
	CNEL Noise Level (@ 100 ft from ctrline)	Distance to 65 CNEL Noise Contour (in feet)	CNEL Noise Level (@ 100 ft from ctrline)	Distance to 65 CNEL Noise Contour (in feet)
Trabuco Road				
Culver Drive/Yale Avenue	67.8	154	68.1	161
Yale East to City Limit	64.0	86	67.9	156
Toledo Way				
Alton Parkway/Bake Parkway	66.1	118	65.0	100
Turtle Rock Drive				
Campus Drive/Ridgeline Drive	63.2	76	62.6	69
Ridgeline Drive/Sunnyhill	63.2	76	61.1	55
Sunnyhill/California Avenue	64.6	94	65.3	105
Von Karman Avenue				
Barranca Parkway/Alton Parkway	66.0	117	72.4	311
Alton Parkway/Main Street	66.9	134	69.0	185
Main Street/Michelson Drive	66.5	126	71.8	284
Michelson Drive/Campus Drive	66.0	117	68.9	182
Walnut Avenue				
Myford Road/Jamboree Road	66.6	128	71.4	267
Jamboree Road/Harvard Avenue	65.6	110	70.8	244
Harvard Avenue/Culver Drive	66.0	117	68.2	163
Culver Drive/Yale Avenue	66.6	128	68.4	169
Yale Avenue/Jeffrey Road	64.9	98	67.1	138
Warner Avenue				
Jamboree Road/Harvard Avenue	58.2	35	64.3	90
Harvard Avenue/Culver Drive	--	--	63.9	84
Culver Drive/Yale Avenue	61.7	60	64.5	93
West Yale Loop				
East Yale Loop/Main Street	66.4	124	66.9	134
Main Street/Alton Parkway	64.4	91	65.8	113
Alton Parkway/Barranca Parkway	62.5	68	63.0	74
Barranca Parkway/Warner Avenue	63.7	82	62.7	70
Warner Avenue/Yale Avenue	64.5	93	62.7	70
Yale Avenue				
North of Irvine Boulevard	64.8	97	65.2	103
Irvine Boulevard/Bryan Avenue	64.0	86	64.0	86
Bryan Avenue to I-5/Trabuco Road	65.1	102	65.1	102
I-5/Trabuco Road to Walnut Avenue	64.1	87	64.1	87
Walnut Avenue/Irvine Center Drive	66.1	118	64.4	91
Irvine Center Drive/Yale Loop	63.4	78	64.1	87
Yale Loop/Michelson Drive	--	--	62.9	72
Michelson Drive/University Drive	55.6	24	59.5	43

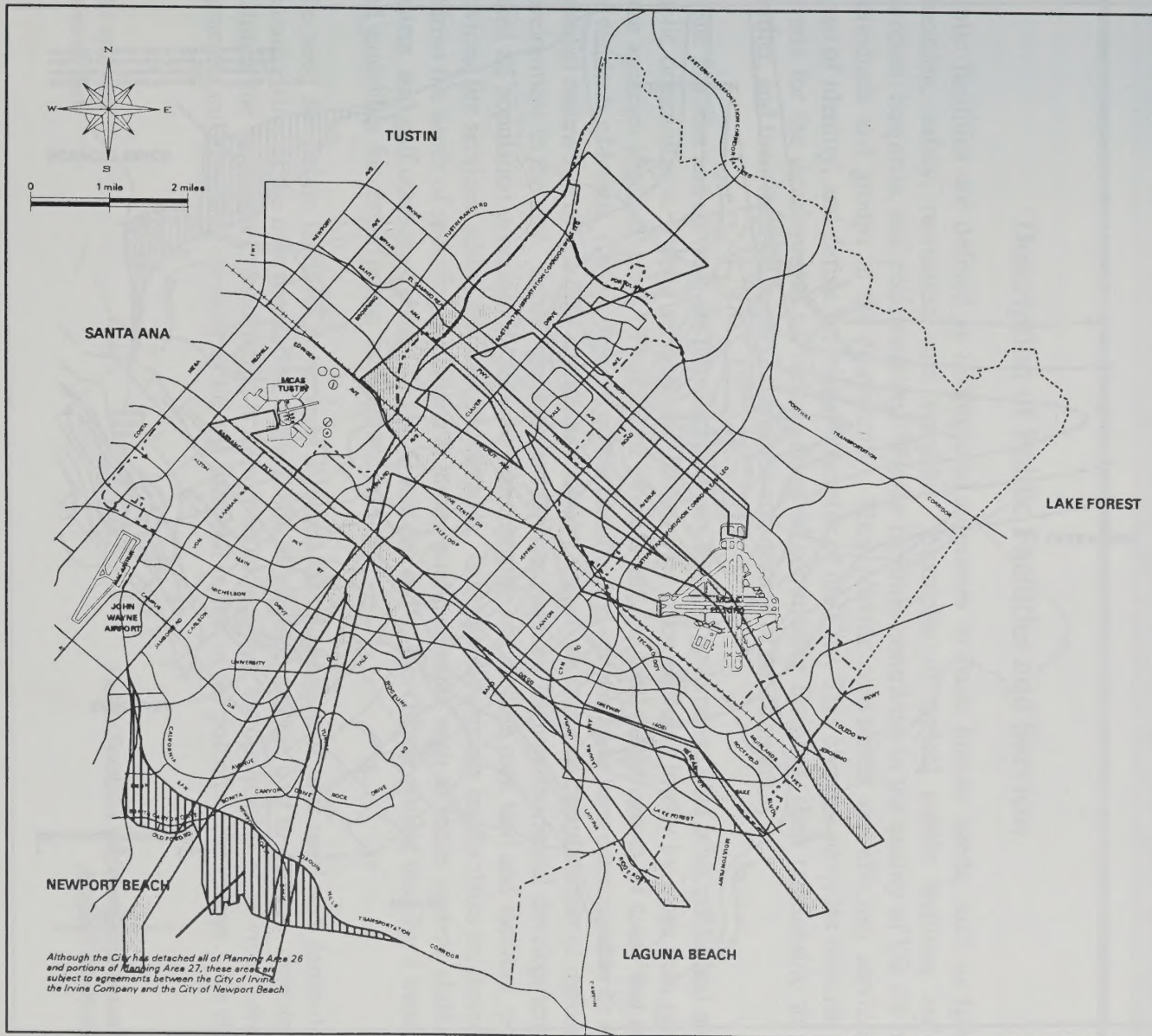
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Table F-3
VEHICULAR TRAFFIC NOISE LEVEL AND NOISE CONTOUR COMPARISON

Roadway Segment	Existing Conditions		2020 Buildout Condition	
	CNEL Noise Level (@ 100 ft from ctrline)	Distance to 65 CNEL Noise Contour (in feet)	CNEL Noise Level (@ 100 ft from ctrline)	Distance to 65 CNEL Noise Contour (in feet)
I-405 (San Diego Freeway)				
SR-55/MacArthur Boulevard	74.8	450	76.1	550
MacArthur Boulevard/Jamboree Road	74.8	450	76.3	567
Jamboree Road/Culver Drive	74.8	450	76.0	541
Culver Drive/Jeffrey Road	74.3	417	76.0	541
Jeffrey Road/Sand Canyon Avenue	73.8	386	75.9	533
Sand Canyon Avenue/SR-133	73.8	386	75.6	509
SR-133/Irvine Center Drive	73.2	352	73.7	380
Irvine Center Drive/I-5	72.5	316	72.9	336
I-5 (Santa Ana Freeway)				
Jamboree Road/Culver Drive	72.7	326	77.1	641
Culver Drive/Jeffrey Road	72.7	326	76.8	612
Jeffrey Road/Sand Canyon Avenue	72.8	331	76.9	621
Sand Canyon Avenue/SR-133	72.8	331	76.3	567
SR-133/Alton Parkway	72.6	321	76.1	550
Alton Parkway/I-405	72.1	297	75.8	525
I-405/Lake Forest Drive	75.0	464	76.2	558
SR-55 (Costa Mesa Freeway)				
I-405/MacArthur Boulevard	73.9	392	not available	

Note: (--) denotes undeveloped roadway. Traffic estimates from City of Irvine were used as inputs to the model.

SOURCE: Environmental Science Associates, 1996.



City of Irvine General Plan



Figure F-1

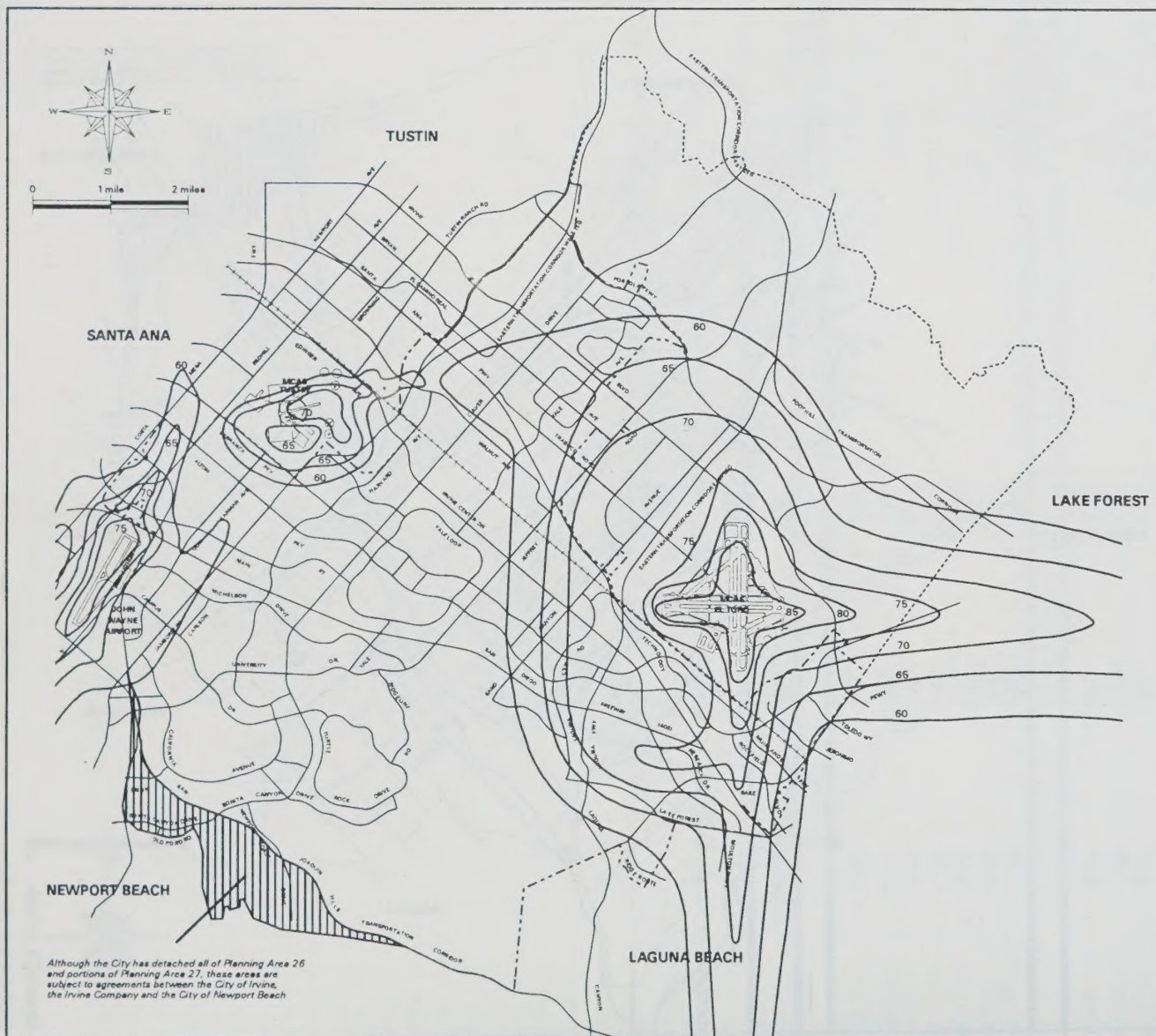
HELICOPTER OVERFLIGHT CORRIDORS

LEGEND

- City Sphere of Influence
- City Boundary
- Helicopter Corridor

Date
Adopted: 3/9/99

City Council
Resolution: 99-29



Although the City has detached all of Planning Area 26 and portions of Planning Area 27, these areas are subject to agreements between the City of Irvine, the Irvine Company and the City of Newport Beach

City of Irvine General Plan



Figure F-2

AIRCRAFT NOISE

LEGEND

- City Sphere of Influence
- City Boundary
- Aircraft Noise Contours expressed as CNEL (Community Noise Equivalent Level)

Date
Adopted: 3/9/99

City Council
Resolution: 99-29

ELEMENT G

PUBLIC FACILITIES AND SERVICES

GOAL: Provide a full range of necessary public facilities and services that are convenient to users, economical, reinforce City and community identity, and reflect the participation of citizens.

Description of Public Facilities and Services

Public facilities are defined as institutional responses to basic human needs, such as health, education, safety, recreation, and worship. Examples of typical public facilities include churches, hospitals, and police stations. Public facilities contribute to the quality of life for both individuals and groups in the community. They provide convenient and efficient services, a sense of identity, and define the visual character of the City. This element provides policies and criteria for the development of various types of community facilities, their relationship to one another, and their location to serve the needs and desires of the community.

Public facilities and services are provided by every level of government, and other public and quasi-public organizations. Public services and facilities are often provided jointly by more than one of these agencies to reduce costs. The City of Irvine is just one local public agency of many that serve the residents of Irvine. Certain types of public facilities and services have been determined to be of an essential nature to a community and are provided by the private sector as a requirement of residential development in the city. Public facilities and services required for new residential development are based on population generated by the new development, and include park land and facilities, police services, fire services, school facilities and libraries. Other public services and facilities are desired to address the needs of specific populations or strong public demand, such as senior centers, child care centers, and golf courses. Tables G-1 and G-2 at the end of this chapter outline the City's standards and guidelines for certain public facilities and services.

The need for public facilities or services is based on an analysis of user need and demand, the characteristics of the user population, the location of services, and the cost to develop, operate and maintain the services. Consideration is also given to reducing the duplication of services between agencies, and providing services within the financial means of the potential user groups. For public

services and facilities which are provided solely or jointly by the City of Irvine, this analysis is considered as part of the Strategic Business Plan, the annual Operations Budget and the Capital Improvement Program. For public facilities and services of a recreational nature, please refer to the Parks and Recreation Element, and for those related to public safety, please see the Safety Element.

Existing Conditions

City facilities and services include neighborhood parks, community parks and programs, the Civic Center, the Aquatics Center, and police services. The City jointly provides other facilities with other public agencies including a community theater, child care centers, athletic complexes, an adult day care center, transportation services and fire stations. These facilities are provided through joint development, joint use or through joint powers authorities.

Community facilities and services provided by others include libraries, churches, schools, a hospital, child care centers, an amphitheater, museums, private neighborhood parks, colleges and universities, and a range of social service programs. One community facility that has yet to be developed in the City is a cemetery.

A Citywide study, the Community Facilities and Services Element Needs Assessment, was completed in 1991. The study, which analyzed service programs (not facilities and infrastructure), concluded that the "majority" of Irvine residents and workers enjoy access to most of the services they need and that, for the most part, they are satisfied with the availability of those services. However, the study identified some "service gaps" (shortage of certain services) and "barriers" to some Irvine residents who need to access or obtain specific services which are not available. Services which are not available for City of

Irvine residents were identified as residential psychiatric treatment facilities, emergency financial assistance, low cost health services and family planning, low cost counseling, child abuse services and substance abuse services. Transportation service was also needed by the elderly, persons with disabilities, those too young to drive, and persons without automobiles for destinations within the City and for certain services only available outside the city.

Figure G-1 shows existing educational facilities in the City. Location of other types of facilities can be found in the Parks and Recreation Element and in the Safety Element.

Trends

Since Irvine is near the geographical center of the County, regional facilities may become more prevalent as the area's population continues to grow. As local resources decrease and service levels are reduced, the community may seek non-traditional services from the City, especially from residents with limited ability to pay for services.

The City continues to experience some "service gaps" in certain program areas as identified under Existing Conditions. Service providers in these service gap areas have identified the perceived lack of affordable space and land designated for institutional use as the primary reason for

not locating to and operating such services in the City. If more sites were available, more services could be provided, reducing the barriers of providing affordable services to Irvine residents.

Finally, as the community ages, more emphasis will be placed on public facility maintenance and rehabilitation programs as opposed to new construction. This change in direction from facility development to facility maintenance and rehabilitation will require a change in the focus of the overall community facilities and services programs.

It will also require continual review and assessment of options to fund needed maintenance and rehabilitation programs. At the City, this assessment is incorporated into the annual review of the Capital Improvement Program and the Strategic Business Plan.

Identification of Issues

- 1. How can the City facilitate the coordination of the various agencies and institutions involved in the provision of public facilities and services?**
- 2. How can the City determine priorities for funding of construction and rehabilitation of public facilities?**
- 3. How can citizens be encouraged to participate in the development of the City's public facilities and institutions?**

Response to Issues

The following objectives and policies have been formulated as responses to guide the development of public facilities.

OBJECTIVE G-1: PUBLIC FACILITIES DEVELOPMENT

Coordinate planning and development of Irvine's public facilities and services with the private sector, University of California, Irvine, the Irvine and Tustin Unified School Districts, Orange County and other public agencies.

The following policies support Objective G-1:

Policy (a) Coordinate public/private capital improvements through an interrelated 7-year public/private capital improvements program and the City's Business Plan that provides for the relating of public facilities to economical extensions of the master utility systems.

Policy (b) Use the capital improvements program and the Strategic Business Plan as the vehicle for determining what City funded facilities and improvements are necessary over time in relation to the City's financial resources.

Policy (c) Develop joint-use/joint-power approaches to facilities with the Irvine and Tustin Unified School Districts, Irvine Valley College, University of California, Irvine and other special districts or agencies. Facilities with greatest potential for joint-use/power agreements include athletic facilities, museums, libraries, theater, conference centers, extended learning facilities, and related support facilities such as parking.

Policy (d) Pursue landscape maintenance agreements with Irvine and Tustin Unified School Districts and other educational entities as a way to increase the availability of recreation fields to the community.

Policy (e) Evaluate periodically the City's public facility standards to refine levels of service and definitions of convenience to users and reinforcement of community identity.

Policy (f) Use the adopted Child and Youth Policy in developing and designing programs, services and facilities for children, youth and families.

Policy (g) Use the adopted Community Parks Master Plan for future siting and development of community parks.

Policy (h) Use the Local Park Code (Chapter 10 of the Subdivision Ordinance) to evaluate the design of public and private neighborhood parks.

Policy (i) Achieve desired levels of service from service providers, such as the Orange County Fire Authority and local school and college districts, through coordinated land use and facility planning.

Policy (j) Coordinate with state and county agencies for the planning, funding and development of state and regional programs, services and facilities within the City and its sphere of influence.

Policy (k) Evaluate the use of development incentives as a means to encourage the private sector to provide facilities for nonprofit service providers.

Policy (l) Continue to include school districts in the review of new developments that, by location and function, could impact any school facility.

Policy (m) Encourage the development of health care facilities in the City which are adequate to serve the needs of the residents.

Policy (n) Encourage the grouping of public facilities into district centers.

Policy (o) Provide library space consistent with county library master plan service levels while continuing to explore future options. Future options may consist of a City library system or utilizing cable TV or Internet potentials for tie-ins to the various libraries of the University of California system.

Policy (p) Use the Land Use intensity tables for the purpose of assisting in the sizing of utility systems.

Policy (q) Provide for the orderly provision of public facilities in relationship to residential, commercial, and industrial development in accordance with the comprehensive phasing plan in the Growth Management Element.

Policy (r) Provide community facilities for seniors and encourage their involvement in the community to meet the needs of the increasing senior population.

Policy (s) The City will include appropriate agencies in review of tentative tract maps to ensure adequate facilities and services are provided.

Policy (t) Locate public programs, services and facilities on sites which have convenient user access to on-street transit services and off-street trails.

Policy (u) Assist IUSD and TUSD through the general plan conformity and CEQA process to use the following criteria:

- Schools should be located on streets having parallel bicycle lanes or paths as shown on the City's adopted Master Plan of bikeways.
- Discourage the development of elementary school facilities in close proximity to commercial sites. Use foot paths and inter-planning area walkways should act as organizing spines and bike paths to connect primary schools.
- Prohibit development of future school facilities in noise sensitive areas which are encompassed by the 65 CNEL aircraft noise contour.
- Prohibit development of future school facilities in aircraft crash hazard areas as shown in the existing General Plan.

- Centralize elementary and intermediate school facilities within residential areas when feasible.
- Locate elementary facilities on local streets and/or local collectors so as not to require the crossing of highly traveled streets.
- Locate proposed public school facility developments in hillside areas on sites which minimize the need for grading.
- Maximize pedestrian and bicycle access to school sites from their attendance areas.
- Locate schools and public parks adjacent to each other when feasible.
- Encourage school access which does not conflict with existing residential communities.

Policy (v) Coordinate with the community to evaluate the need and location of additional library services. If a new library is determined to be appropriate, the site should be reflected on the General Plan Land Use map and the appropriate Zoning Ordinance Planning Area exhibits

Policy (w) Coordinate with community members, landowners, and industry representatives to facilitate the development of one or more cemetery and/or mortuary facilities in the City. The site should be reflected on the General Plan Land Use map and the appropriate Zoning Ordinance Planning Area exhibits.

Policy (x) Encourage public education providers to seek input on proposed school facility projects from adjacent property owners and residents. Where possible, concerns shall be incorporated into the project design.

OBJECTIVE G-2: CITY SERVICES

Develop an appropriate balance between City provided and contracted services.

The following policies support Objective G-2:

Policy (a) Contract with the County, joint powers authorities and the private sector for services for as long as service received is adequate, sufficient community identity for Irvine is maintained, and it is not practical for the City to operate its own programs.

Policy (b) Contract for library services as long as the service received responds to the City's needs.

Policy (c) Fund public programs, services and facilities through a variety of methods, such as maintenance and assessment districts, community facilities districts, joint development, user fees and other available public and private financing sources.

Policy (d) Encourage the development of multi-use centers as a method to maximize available resources to all segments of the community.

OBJECTIVE G-3: PUBLIC PARTICIPATION

Encourage citizen participation in developing quality public facilities and institutions.

The following policies support Objective G-3:

Policy (a) Foster awareness of science and technology in the City's cultural life and environmental quality.

Policy (b) Assist in organizing the resources of public schools, UCI, private industry, and other sources without being directly involved in or financing of this area of community life.

Policy (c) Encourage creativity in all the visual and performing arts.

Policy (d) Encourage the design and development of low-cost spaces and publicly visible spaces for art sales and/or cultural festivals.

Policy (e) Evaluate existing programs, services and facilities on a periodic basis to determine community needs, desired levels of service and ability to provide.

Policy (f) Continue outreach programs within the community to provide information on available programs, services and facilities and to determine needs.

Policy (g) Encourage public schools, UCI, private industry and other sources to provide the community with information regarding their available public resources.

Policy (h) Develop out-reach programs and assessments to ascertain the needs of special population groups within the City.

OBJECTIVE G-4:

MAINTENANCE AND REHABILITATION

Ensure that public facilities are maintained and rehabilitated in a manner that provides an acceptable level of service, is cost-effective and consistent with the community's ability to pay.

The following policies support Objective G-4:

Policy (a) Maintain and rehabilitate the City's public facilities consistent with the Strategic Business Plan and the availability of Capital Improvement Funds.

Policy (b) Pursue state, federal and other available funding sources to improve and enhance public facilities.

Policy (c) Require that all City owned public facilities be maintained and rehabilitated by the City to ensure their continued availability and use.

Policy (d) Pursue all possible methods to generate revenue for the maintenance and rehabilitation of public facilities, such as community facilities districts, maintenance and assessment districts, joint development, leasing, user fees and other available public and private financing sources.

Policy (e) Rehabilitate public facilities using technologies, methods and materials which result in energy and water savings, and cost effective long term maintenance programs.

Policy (f) Cluster and/or group public facilities together, whenever possible, to reduce maintenance and rehabilitation costs.

RELATED OBJECTIVE NUMBERS

The following objectives are related to the Public Facilities and Services Element:

Land Use Element - A-1, A-2, A-3, A-5
Circulation Element - B-3, B-4
Housing Element - C-3
Seismic Element - D-2
Cultural Resources Element - E-1, E-2
Noise Element - F-1, F-2, F-3
Integrated Waste Management Element - H-1, H-2
Safety Element - J-2
Parks & Recreation Element - K-1, K-2, K-3, K-4
Growth Management Element - M-6, M-7

<u>Date</u>	<u>GPA</u>	<u>Resolution Number</u>
03/09/99	18930-GA	99-29

Table G-1

Public Facilities and Services Standards

POLICE SERVICES:

Police services are provided by the City of Irvine Public Safety Department. The staffing goal for police department in the Year 2000 is 1.14 officers per 1,000 population. Staffing goals are adjusted annually as addressed in the City's Strategic Business Plan to ensure that, at a minimum, the following emergency response standards are met (Residential Night-time Population Standard):

- Responding to Priority E (Emergency) events within 6 minutes 85% of the time.
- Responding to Priority I (Crimes in Progress) events within 10 minutes 85% of the time.
- Responding to Priority II (Less Serious Crimes Now Occurring) events within 20 minutes 90% of the time.

FIRE SERVICES:

The Orange County Fire Authority was formed in 1995 as a joint powers authority and is governed by a 21 member Board comprised of representatives of the 19 cities and the unincorporated area it protects. As a partner agency, Irvine receives regional fire protection and emergency services from one of the largest regional fire service organizations in California, currently with over 61 fire stations. Within the City, OCFA operates 6 fire stations with additional stations planned for the Irvine Spectrum and the general area east of Northwood Point. OCFA is a full service emergency response agency which is able to take advantage of the versatility, skills, and availability of resources and management that can be shared and deployed without regard for jurisdictional boundaries. OCFA provides fire suppression, emergency medical, rescue, and fire prevention services. The Authority also handles hazardous materials coordination and wildland management.

The policy of the OCFA for fire protection and emergency services in Irvine is as follows:

- For fire and basic life safety incidents in urban areas, a first due unit on scene within a five (5) minute response time for 80% of the time.
- For advanced life support incidents, units shall be located and staff available within eight (8) minutes response time, 80% of the time.

Table G-1 (Con't)

Irvine's fire services are provided from two types of facilities, Battalion stations and Fire stations. Equipment included at each station is determined by the OCFA. The OCFA Fire Station Design Guide provides useful information and guidelines necessary to design and construct an essential fire station facility. Stations consist of either a large battalion station headquarters station or a standard small station which can house at least two apparatus. A station site would require a minimum one acre, flat buildable site, typically with good circulation and access to arterial highways.

SCHOOL FACILITIES:

The Irvine Unified School District (IUSD) serves the majority of the City's residential neighborhoods. Other school districts which serve Irvine residents includes the Santa Ana Unified School District and the Tustin Unified School District.

Each school district's student generation rate changes over time. The rates are based upon factors such as the density and type of new development, and new or existing residential units. In the IUSD, the typical school sizes are as follows:

- Elementary School (K-6): Permanent core building to house 600 students, with provisions for relocatable buildings to house a maximum of 720 students on an average site of 10 acres.
- Middle School (7-8): Permanent facilities for 700 students with provision for relocatable buildings and short term overload of facilities to house a maximum of 900 students on an average site of 20 acres.
- High School (9-12): Permanent facilities for 1,800 students with provisions for relocatable buildings and short term overload of facilities to house a maximum of 2,400 students on an average site of 40 acres.

LIBRARY SERVICES:

Ratio: one square foot of facility per five persons population
Average size: one acre

Table G-2

PUBLIC FACILITIES AND SERVICES GUIDELINES

CHILD CARE CENTERS:

Child care sites for Infants/Toddlers/Preschoolers to be allocated according to the following:

- 33% of the sites should be provided by schools and City.
- 33% of the sites should be provided by churches.
- 33% of the sites should be provided by the private sector.

Child care sites for school-age children to be allocated according to the following:

- 50% of the sites should be provided by schools.
- 25% of the sites should be provided by the City.
- 25% of the sites should be provided by the private sector.

Facility Standards:

Site Size: 1.3 acres for 150-200 children, including infants and toddlers.

All child care centers shall meet the minimum requirements as defined in the California Code Title 22, division 12, Chapters 1 and 2.

SENIOR CENTER:

1 Center/50,000 Population.

Facility Standards:

Site Size: 2 acres
Building Size: 5,000 square feet

Source: City of Irvine Community Parks Master Plan

Table G-2 (Con't)

COMMUNITY CENTER/YOUTH CENTER:

1 Center/20,000 Population.

Facility Standards:

Site Size: 3 acres

Building size: 10,000 square feet

Source: City of Irvine Community Parks Master Plan

SWIMMING POOLS

50 meter (Olympic) Pool:

1 Pool/100,000 Population

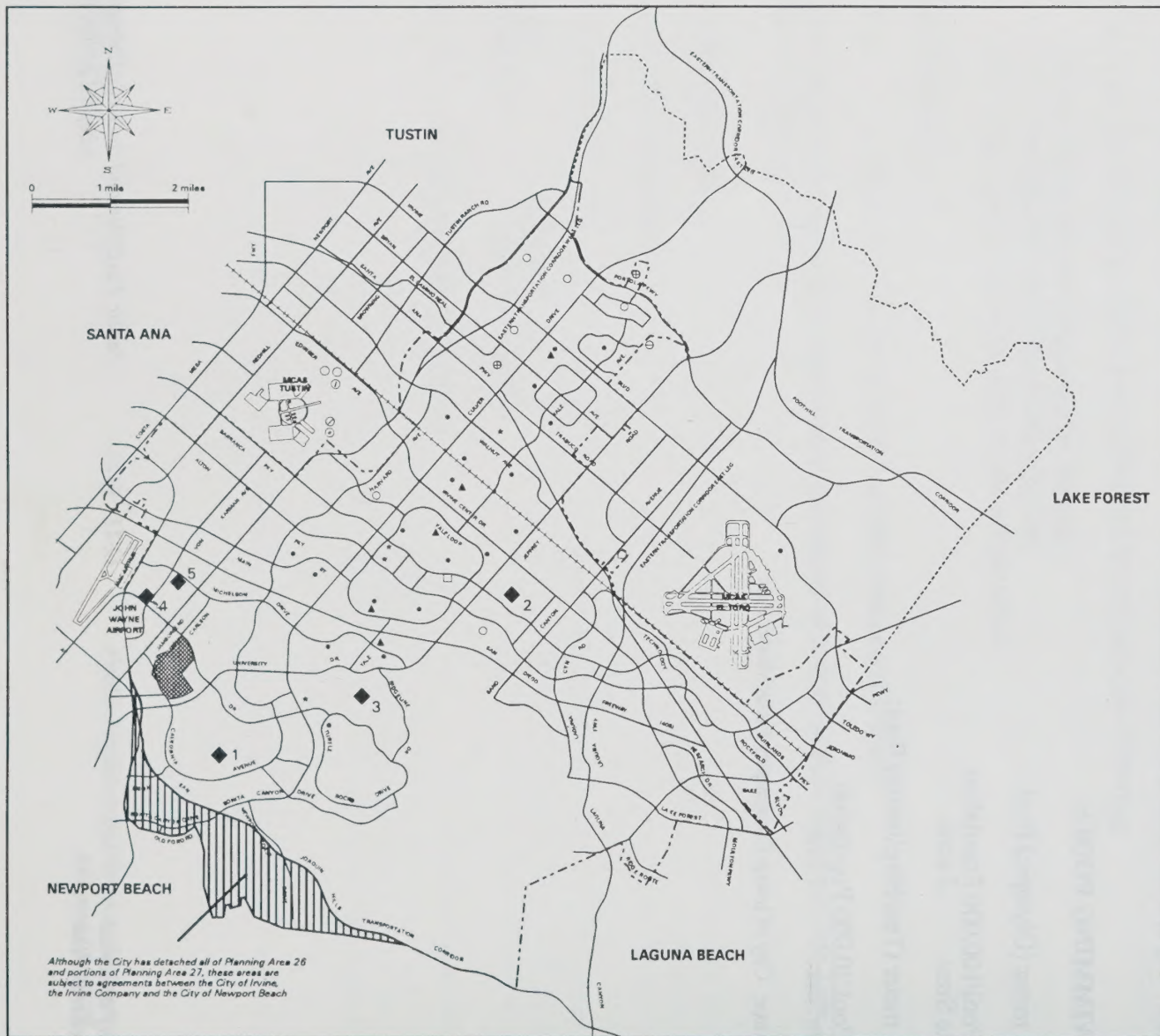
Site Size: 2 acres

25 meter (Teaching/Junior) Pool:

1 Pool/20,000 Population

Site Size: 1 acre

Source: City of Irvine Community Parks Master Plan



City of Irvine General Plan



Figure G-1

EDUCATIONAL FACILITIES

LEGEND

- City Sphere of Influence
- City Boundary

Irvine Unified School District *

- | EXISTING | PROPOSED |
|-----------------|-----------------|
| • Elem. School | ⊕ High School |
| ▲ Middle School | ⊖ Middle School |
| ★ High School | ○ Elem. School |
| □ IUSD Facility | |

College and University Campuses

- ◆ 1 University of California, Irvine
- ◆ 2 Irvine Valley College
- ◆ 3 Concordia University
- ◆ 4 University of Southern Cali. Extension
- ◆ 5 Webster University

- UCI Natural Reserve

* NOTE: Portions of the City of Irvine are within the Tustin, Santa Ana, and Saddleback Valley School districts.

Date
Adopted: 3/9/99

City Council
Resolution: 99-29

ELEMENT H **INTEGRATED WASTE MANAGEMENT**

GOAL: Encourage solid waste reduction and provide for the efficient recycling and disposal of refuse and solid waste material without deteriorating the environment.

Description of Integrated Waste Management Element

Integrated waste management is described as a system for reducing, collecting, recycling and disposing of waste products generated by residential, institutional, commercial, and industrial land uses. Waste can be liquid and solid, hazardous and non-hazardous. The collection and disposal components of waste management are further described as follows:

1. Solid, Non-hazardous Waste.

Solid waste collection is usually accomplished by picking up refuse at the sources via collection vehicles, separating out recyclable materials at transfer stations, and then transporting the residual material

Solid wastes can be disposed of in several ways such as sanitary landfill, recycling, waste-to-energy, and composting.

Solid Waste Disposal Methods

Sanitary Landfill - An area where waste is dumped, then buried beneath a layer of earth. Landfills are usually equipped with a liner to reduce soil and water pollution from contaminated seepage.

Recycling - The process of recovering useful materials from solid waste, including items for reuse.

Waste-to-Energy - The only renewable energy technology that provides communities with dual environmental benefits: a clean source of electricity and clean trash disposal. In the waste-to-energy process, trash is used as a fuel to generate power such as electricity or steam for central heating or cooling.

Composting - The process of converting yard waste into a usable organic compost. This process allows the conservation of valuable landfill space and also provides an excellent soil amendment.

2. Liquid, Non-hazardous.

Liquid, non-hazardous wastes are usually collected through a sewer system and treated at a waste water treatment facility with the liquid waste (effluent) being disposed of in the ocean or treated for reuse as reclaimed water. The resulting sludge can be disposed of in a sanitary landfill, sludge farm, or eliminated through incineration.

3. Hazardous Waste.

Hazardous wastes are required by state law to be recycled, treated on site or treated at a designated waste treatment facility whereby hazardous materials are neutralized prior to final disposal.

Liquid hazardous wastes are either treated at the waste source to neutralize hazardous components and then placed in the sewer system, or nontreated hazardous wastes are collected in specifically designed collection vehicles for ultimate disposal.

Existing Conditions

Residential, institutional, regional commercial, and industrial solid waste is presently collected by private firms, with residential and village commercial collections franchised by the City. The waste collected is transported directly to the Frank Bowerman landfill. This facility is located north of Sand Canyon Avenue in Planning Area 3 and is operated by the County of Orange. A solid waste transfer station exists within Planning Area 36 (Irvine Business Complex). Figure H-1 shows the location of existing waste facilities in the City.

The City's existing wastewater system is primarily managed by the Irvine Ranch Water District. (The Orange County Sanitation District provides service to (Planning Area 36 only.) Most of the City's wastewater is collected and then treated at the Michelson Reclamation Plant located in Planning Area 23. The plant was constructed in 1966 and most recently expanded in 1980 to its present capacity of

15.0 million gallons per day (mgd). Most treatment effluent from the plant is used in agricultural and landscape irrigation, with some excess pumped to the Orange County Sanitation District for disposal.

The county operates a Household Hazardous Materials Collection Center at the City of Irvine Corporate Yard in Planning Area 12. Many hazardous materials, such as motor oil and antifreeze, are recycled or used for fuel. Residues of treated hazardous wastes (solid and liquid) are currently disposed of at specially permitted disposal and storage facilities. No such sites exist in Orange County and, therefore, materials must be transported to sites out of the county or out of state.

Trends

Waste generation can be expected to increase as population in the City and county continues to grow. As landfill capacity decreases, additional solid waste disposal facilities will be necessary. This

demand will also have an effect on collection and disposal costs. Public awareness of the replacement of sanitary landfills with some other waste disposal option will perhaps be the most critical issue of waste management in the following years. Efforts to limit waste flowing into landfills through source reduction and recycling will become increasingly important as the economies of scale for landfill construction and operation becomes increasingly prohibitive, in terms of land and haul costs, as well as costs associated with environmental degradation. In 1989 the State of California adopted, the Integrated Solid Waste Management Act (AB939), which mandated that each city and county develop and implement waste reduction and recycling plans. AB939 requires all jurisdictions to divert 50 percent of solid waste generated (as compared to 1990 levels) from landfills by the year 2000 or face the possibility of severe financial penalties. As of mid-1998, a significant amount of all waste generated in the City of Irvine, including office paper, cardboard, aluminum, green waste, plastics, glass and construction materials, is being diverted from the landfill and reused or recycled through City and private sector programs.

Another trend that can be expected in the coming years is a shift from conventional handling of solid and liquid hazardous wastes and sludge disposal to other alternatives more responsive to the environmental and economic impacts of disposal. The county's role in providing waste disposal sites may be minimized if the private sector assumes responsibility for providing waste disposal facilities. Such a shift in roles would increase the responsibility of the City to review and control waste facility sites. However, in

1998 the cities in Orange County entered into a ten-year agreement with the county to continue using the Frank Bowerman landfill, which will continue under county operation.

Types of Waste

Solid Waste - common household-variety trash with little or no liquid included

Wastewater - all liquid waste dumped in the sewer system via drains and toilets in households and businesses

Green waste - waste generated from maintaining landscaping, including grass and tree clippings

Biosolids - solids remaining after treating wastewater
Note: Many common products (paint, fertilizers, household cleaners), as well as many commercially used chemicals, are considered "hazardous." Hazardous waste can show up anywhere, in: household waste, wastewater, green waste, or biosolids.

Urban wastewater runoff is regulated by the Federal Water Pollution Control Act, which requires discharges into navigable waters to meet stringent standards. This is implemented through the National Pollution Discharge Elimination System (NPDES). Construction activity, farming, and automobile maintenance are examples of some of the activities covered by the NPDES. The purpose of the system is to reduce the pollutants (trichloroethane, lead, zinc, carbon, pesticides, fertilizers, etc.) that accumulate from everyday activities on lands, streets and parking lots. Such pollutants are carried into the storm drains and ultimately into surface water bodies such as San Diego Creek and Upper Newport Bay. The City, as coholder with the county and other jurisdictions of a general discharge permit, has adopted

standards and Best Management Practices ("BMPs") to control this type of pollution.

Identification of Issues

- 1. What role should the City play in determining the location of solid waste facilities?**
- 2. What control does the City have in regulating privately operated disposal facilities?**
- 3. What criteria can be used in determining the land use compatibility of a waste facility?**
- 4. What is the City's responsibility in providing facilities (through land use decisions) for other cities' benefit?**

Response to Issues

The following objectives and policies respond to the identified issues.

OBJECTIVE H-1: SOLID WASTE

Cooperate in guiding the development and improvement of a solid waste disposal system within the County of Orange that will meet the needs of the City and protect the City from damage by unplanned disposal of refuse.

The following policies support Objective H-1:

Policy (a): Use the General Plan land use categories and building intensity standards as a basis for estimating waste disposal requirements and program needs.

Policy (b): Encourage continued study of alternative waste disposal methods and technology with emphasis on reuse of solid waste materials and on waste-to-energy.

Policy (c): Develop all waste disposal programs in cooperation with landowners, the county, and other jurisdictional and regulatory agencies.

Policy (d): Work closely with the operator(s) of existing landfill sites to minimize deleterious effects on surrounding land uses including possible impacts generated by rodent and insect populations, odors, and ground water conditions.

Policy (e): Develop a detailed implementation program regarding the need and timing for transfer station(s) within the City.

Policy (f): Explore the possibility for a system of solid waste management and collection that will facilitate recycling waste products and the possible generation of fuel at either a Citywide, planning area or residential unit scale.

Policy (g): Require, to the extent necessary to comply with state law, during discretionary application review, solid waste reduction and recycling efforts for residential, commercial, industrial, institutional and recreational land uses to

reduce the amount of waste disposed at landfills.

Require businesses which intend to handle or store hazardous substances (waste and materials) to obtain all necessary permits and comply with all regulations and standards administered by the California Environmental Protection Agency (Cal/EPA) - Department of Toxic Substances Control, Orange County Health Care Agency, Santa Ana Regional Water Quality Control Board, South Coast Air Quality Management District, Orange County Fire Authority and the City of Irvine Zoning, Building, and Public Safety Codes.

Policy (h): Support the Orange County Integrated Waste Management Department's Regional Household Hazardous Materials Collection Center program through public awareness education programs, such as City cable TV announcements, pamphlets, etc.

The California Department of Toxic Substances Control (DTSC) defines hazardous waste as follows:

Hazardous waste -- includes any waste that, due to its quantity, concentration, or physical, chemical, or infectious characteristics may either:

- Cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness.
- Pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

OBJECTIVE H-2: SOLID WASTE FACILITY SITING REQUIREMENTS

Control the siting of solid waste disposal facilities to minimize impact on adjacent or existing planned land uses.

The following policies support Objective H-2:

Policy (a): Use the compatibility matrix and rating chart as shown in Figures 1 and 2 of Appendix H in reviewing proposed solid waste disposal or transfer station sites.

Policy (b): Coordinate with the County of Orange as early as possible in the planning of solid waste facilities within the City.

Policy (c): Pursue citizen input early in the planning process in order to identify community concerns regarding the location of any solid waste facility within the City.

Policy (d): Review waste facility proposals in terms of costs and benefits to the City of Irvine. Particular attention should be paid to large scale facilities where the bulk of waste is generated outside of the City.

Policy (e): Require sanitary landfill operators to use the best available technology as part of their landfill operations.

Policy (f): Require landfills to operate in such a manner as to minimize adverse environmental impacts.

OBJECTIVE H-3: WASTE WATER

Control waste water and storm runoff in a manner to minimize impact on adjacent existing or planned land uses.

The following policies support Objective H-3:

Policy (a): Encourage the use of recycled water sources for secondary water uses, such as fire hydrants, on-site fire sprinkler systems, and waste water systems, and for irrigation purposes to the greatest extent feasible.

Policy (b): Require developers of new projects located adjacent to or upstream of natural water courses to develop surface drainage systems which will direct low flows (those which carry the most pollutants) away from natural water source into an area designed to remove pollutants. Require evidence be provided that any proposed development will have adequate sewer service, including assurance that collection and treatment capacity can be accommodated.

Policy (c): Require a National Pollution Discharge Elimination System (NPDES) permit to be obtained from the State Water Resources Control Board whenever surface

water is collected anywhere for discharge as a point source, or if a point source discharge is contemplated, a National Pollution Discharge Elimination System (NPDES) permit must be obtained from the State Water Resources Control Board. Encourage the use of alternative Best Management Practices (BMPs) to control and minimize urban pollutant runoff.

RELATED OBJECTIVE NUMBERS

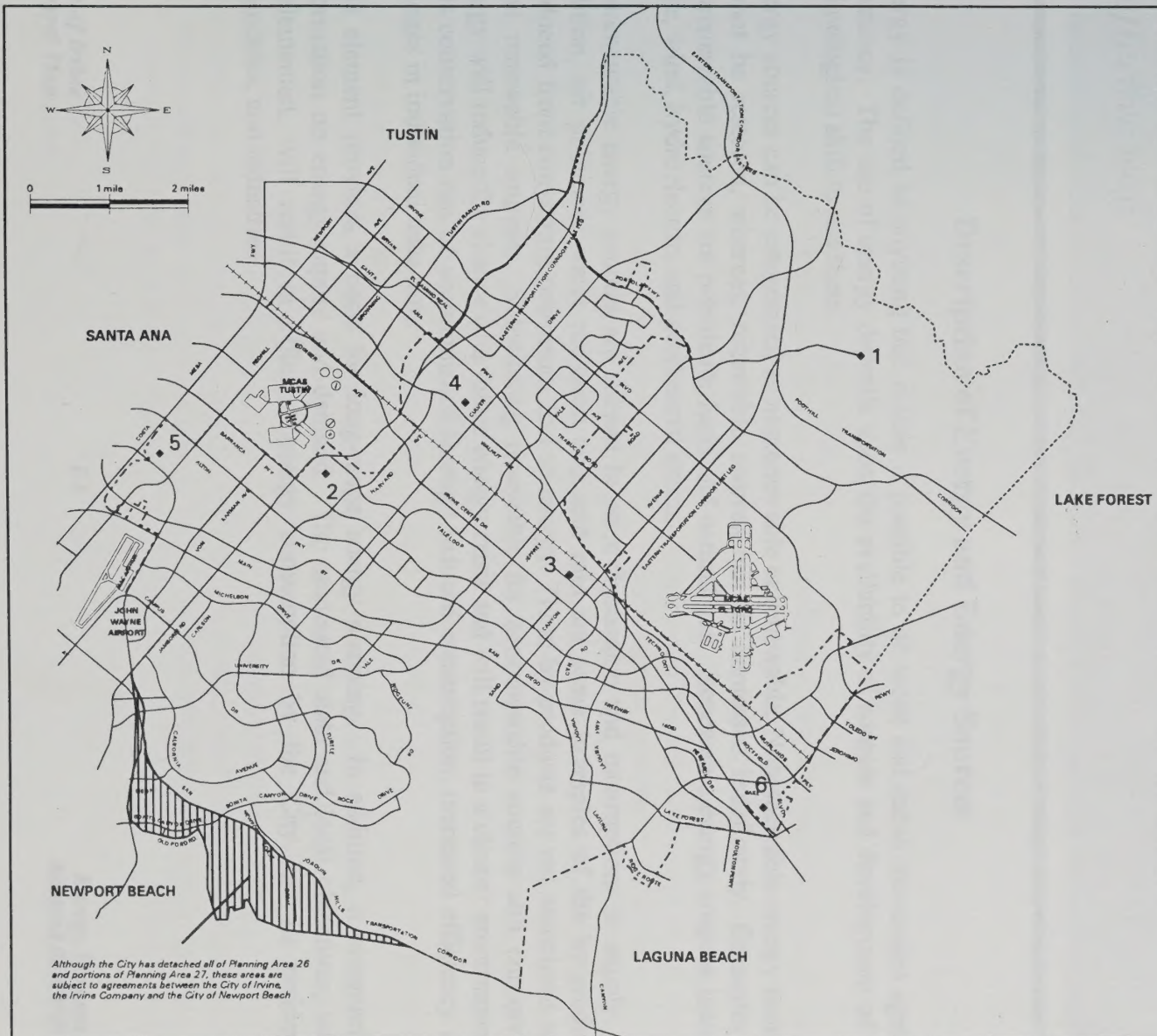
The following objectives are related to the Integrated Waste Management Element:

Land Use Element - A-4
Public Facilities and Services Element - G-1, G-2
Conservation & Open Space Element - L-10

Civilization is a limitless multiplication of unnecessary necessities.

Mark Twain

<u>Date</u>	<u>GPA</u>	<u>Resolution Number</u>
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City of Irvine General Plan



Figure H-1

SOLID WASTE FACILITIES

LEGEND

- City Sphere of Influence
- City Boundary

SOLID WASTE FACILITIES

1/ Frank R. Bowerman Landfill ("Bee Canyon")
Commercial landfill

2/ Sunset Environmental Industries
Public disposal site for bulky items and
recyclables buy back

3/ Irvine Regional Collection Center
Household hazardous waste disposal

CERTIFIED USED OIL RECYCLING CENTERS
(certified by the CA Integrated Waste Management Board)

4/ Irvine City Auto Parts

5/ Auto Service 2000 of Southern California

6/ Firestone Store

Date
Adopted: 3/9/99

City Council
Resolution: 99-29

ELEMENT I **ENERGY**

GOAL: Promote energy conservation and the use of renewable energy sources throughout the City in a cost effective way.

Description of Energy and Energy Sources

Energy is defined as anything that makes it possible to do work and cause movement against resistance. The use of energy depends upon the availability of sources and development of the technological skill to use them.

Energy sources can be categorized as nonrenewable or renewable. Nonrenewable energy sources cannot be restored, whereas, renewable sources can be harnessed indefinitely. Examples of nonrenewable sources are petroleum fuels and natural gas. Renewable energy sources include solar, wind, hydroelectric, and geothermal steam.

Nonrenewable energy sources are subject to price fluctuation and interruptions in supply. In addition, air pollution, water pollution and acid rain are some examples of the by-products produced from converting petroleum fuel to energy. These by-products are not associated with most renewable sources. Substituting renewable for nonrenewable sources and conserving energy will reduce the chance of a future energy crisis and will result in a cleaner environment. This conservation can be accomplished through reduced consumption, increased efficiency and changes in individual behavior.

This element provides a basis for long-range energy planning. In addition, it summarizes information on energy supply and demand. The associated state and local objectives, when implemented, will result in efficient energy consumption by the City and its residents, businesses, and industries.

Existing Conditions

Supply: The primary supplier of retail natural gas to Irvine is the Southern California Gas Company (SCG). The primary supplier of retail electricity to Irvine is the Southern California Edison Company (SCE). On March 31, 1998, the electricity generation market was deregulated creating the ability for other providers to supply electricity. However, as of June 1998, SCE remains the primary supplier for the City of Irvine. Electricity can be generated from a combination of oil, natural gas, hydroelectric, nuclear, or renewable sources (wind and solar). Future energy sources which may decrease the area's reliance on fossil fuels include solar, wind, and geothermal energy. Operational wind turbines in the Coachella Valley provide a small portion of the region's electricity needs.

Consumption: Irvine's energy is consumed by residential, commercial, industrial, agricultural and transportation uses. The commercial sector is the largest energy (electricity) consumer in Irvine. Natural gas is mostly consumed by the residential sector. Lighting and space heating are the principal end users of electricity and natural gas in the residential and commercial sectors. Transportation is the only major end user of liquid fuels.

Trends

Supply: This Element assumes that the existing mix of energy supply will continue through the 1990s. Some renewable energy sources, such as solar water heating, will replace existing sources but will not significantly change the future mix of Irvine's supply.

The natural gas industry was deregulated in 1994. Now, large users are commonly supplied by companies other than The Gas Company while residents are still served by The Gas Company. Price fluctuations do occur but the volatility is tempered by the ability to stockpile natural gas. It can be stored underground in natural rock formations, above ground in tanks, or in transmission and distribution systems.

The electricity industry in California was restructured effective March 1998. All consumers can now purchase power directly. Most of the smaller users (residents and small businesses) received an automatic 10 percent reduction in rates effective January 1, 1998. As the electricity market evolves, pricing is expected to become more volatile as it reacts to fluctuating demand and other market factors. The fact that electricity cannot be stored and must be used immediately will contribute to its price volatility. This makes the market for electricity very different from that for natural gas.

Consumption: Irvine's future energy consumption has been evaluated based on two scenarios: a) the "base case" assumes that the existing energy consumption pattern continues without conservation and that the energy consumption increases in proportion to the change in building stock and/or population growth; b) the "conservation case" assumes that energy conservation measures are implemented and nonrenewable sources are replaced by renewable ones. The principal actions being taken in the conservation case are the strong enforcement of the State of California Code of Regulations, Title 24, "Energy Building Regulations" and this element's objectives and policies. The state regulations are strictly enforced in the City of Irvine.

Identification of Issues

1. How can the City mitigate the impact of rising energy costs for natural gas and electricity for Irvine's residents, businesses, industries, and municipal operations?
2. How can the City reduce its vulnerability to price fluctuations and supply and increase the use of locally available resources?
3. How might the City influence regional policies such as transportation planning to serve local residents and businesses more effectively?
4. How can the City inform the public of existing and future potential energy programs and regulations?
5. In what ways might the City encourage public acceptance of energy retrofit programs?
6. How can the City maintain its services to protect the public health and safety during energy shortages?
7. What services can the City provide to implement energy programs and promote the use of renewable energy sources?

Response To Issues

The following objectives and policies respond to the identified issues:

OBJECTIVE I-1: ENERGY CONSERVATION

Maximize energy efficiency through land use and transportation planning.

The following policies support Objective I-1:

- Policy (a):** Consider the following or comparable design features, to the extent feasible, in developments at time of concept plan, subdivision, or development review:
- Encourage optimum solar access, natural ventilation and energy efficient landscaping.
 - Encourage east/west alignment for local streets and building orientation which maximizes solar access, natural ventilation, and which minimizes conflicts with the solar access of adjacent structures or properties.
 - Encourage energy-efficient landscaping (water conserving plants, indigenous vegetation, and use of on-site water run-off) consistent with the City's Sustainability and Landscaping Ordinance.
 - Encourage, as part of required landscape plans, plant types and irrigation systems which minimize water usage and provide cooling opportunities during summer and minimize conflicts with solar access during winter.

- Encourage cluster residential development when feasible.
- Encourage south slope utilization in hillside development.
- Require cut-off or directional lighting fixtures to be used to direct light only to desired areas and to reduce glare.

Policy (b): Encourage and promote incorporation of energy conservation measures. The measures should be developed in conjunction with the applicant and may include:

- Active solar water and/or space heating.
- Passive design features for heating and cooling.
- Use of energy efficient devices.

Policy (c): Encourage development of shared energy facilities in major commercial projects where cost effective, such as:

- Heating/cooling system.
- Solar water heating.
- Photovoltaic (e.g., solar panel).

Policy (d): Develop guidelines establishing architectural and aesthetic controls for solar devices. Guidelines should provide reasonable controls while maintaining cost effectiveness of devices or systems.

Policy (e): Facilitate the participation of industries in the following conservation programs where cost effective:

- Cogeneration (process heat/steam/electricity).

- Reclaiming waste products (biomass, solid waste, waste water).
- Recycling (aluminum, paper, glass and steel).
- Carpooling.
- Mass Transportation.

Policy (f): Require developers of major commercial or industrial facilities who develop a transportation management plan to address such measures as:

- Flex time and/or shifting work schedules to avoid peak traffic.
- Employee carpools and vanpools.
- Preferential and free parking for carpoolers and vanpoolers.
- Ridesharing programs.
- Shuttle services from regional transportation (e.g., rail/bus) stations to final destination.
- Subsidies for transit passes.
- Locker room facilities for employees (e.g., for bicyclists).

Policy (g): Promote use of alternative modes of transportation by the following programs:

- Encourage use of regional public transportation (e.g., rail service) by:
 1. Supporting the development of regional transportation stations in Irvine.

2. Making schedules available at City Hall and other public agencies.
 3. Requesting Orange Transportation Authority (OCTA) to establish and provide information on bus connection for regional transportation passengers.
- Encourage use of the bus system by working with OCTA to provide:
 1. Bus circulation between residential, commercial and industrial uses.
 2. More efficient transfers between bus routes.
 3. Posted schedules at bus stops.
 4. Widely distributed bus schedules.
 5. Shuttle services from regional transportation stations to final destination.
 - Encourage use of public transit and ridesharing by promoting and participating in public information programs aimed at schools, sports clubs and other institutions and organizations.

Policy (h): Continue implementing the City program to synchronize traffic signals.

Policy (i): Monitor the federal, state, regional, other local governments, the utility companies, Irvine Ranch Water District (IRWD), and other private and public agencies energy programs and regulations and:

- Explore opportunities and limitations on use of renewable sources.

- Obtain information and technical assistance for energy programs.
- Implement federal and state energy programs.
- Support continuation of tax credits for alternative renewable sources and conservation measures.
- Allocate available federal funds and grants such as Community Development Block Grant (CDBG) for energy programs for low income and senior housing development.
- Inform developers and the general public of recent available energy programs, regulations, technical, and economic data (e.g., cost effectiveness).

OBJECTIVE I-2: RETROFIT PROGRAMS

Promote energy savings in buildings constructed prior to 1978.

The following policies support Objective I-2:

Policy (a): Encourage voluntary retrofit energy programs for residential, commercial and industrial buildings including energy conservation measures such as:

- Residential retrofit measures.
 1. Ceiling and wall insulation.

2. Weather stripping, sealing and caulking.
 3. Low flow shower head.
 4. Water heater tank insulation.
 5. Duct insulation.
 6. Air conditioning recycling devices.
 7. Computer controlled thermostats.
- Commercial retrofit measures.
 1. Ceiling and wall insulation.
 2. Weather stripping, sealing and caulking.
 3. Shading controls (e.g., overhangs).
 4. Lighting controls.
 5. Thermostat controls (summer and winter).
 6. Optimum heating, ventilation, and air conditioning (HVAC) scheduling.
 - Industrial retrofit measures.
 1. Operating and maintaining equipment at peak performance.
 2. Maintaining furnaces.
 3. Adjusting lighting.
 4. Plugging leaks in heating and cooling process.

Policy (b): Support the voluntary retrofit energy programs through the following:

- Providing an energy efficiency rating system for identifying the needed type of retrofit measures.
- Provision of information to the chamber of commerce, real estate brokers, building contractors, homeowners, apartment owners and consumers on retrofit measures installation, cost-effectiveness, financing assistance, and other agencies energy programs.

Policy (c): Promote the voluntary residential retrofit energy program by encouraging homeowners associations to do the following:

- Purchase bulk solar systems and conservation materials.
- Sponsor buying clubs, cooperative or other suitable mechanism to purchase, install, and maintain retrofit measures.

Policy (d): Provide technical assistance for homeowners for the installation of active solar systems, such as information on optimal orientation and building code requirements.

Policy (e): Work closely with the utility companies and the chamber of commerce, schools and other public entities in support of energy reduction programs, and dissemination of information regarding these programs.

Policy (f): Consider increasing public information regarding energy programs by:

- Mailing energy consumption and conservation data to homeowners associations.
- Displaying energy information in local shopping area and community centers, City, and other public-libraries (e.g. UCI).
- Publishing energy information in local newspapers.
- Incorporating energy information in City schools, Irvine Valley College and UCI programs.

Policy (g): Provide homeowners associations and the general public with available information on:

- Renewable energy sources, conservation measures, technical and economic data (e.g. cost-effective analysis), and consumer protection issues and programs.

OBJECTIVE I-3: MUNICIPAL CONSERVATION

Maximize energy efficiency of the City's facilities and operations by use of recycled materials, renewable sources, and conservation measures.

The following policies support Objective I-3:

Policy (a): Management program to reduce energy consumption for municipal facilities and operations including:

- Public buildings and facilities.
- Street lighting.
- City vehicle fleet management.
- Appliance/equipment procurement.
- Employee energy awareness program.

Policy (b): Incorporate the commercial retrofit conservation measures in municipal facilities where feasible.

Policy (c): Use the following renewable sources for municipal facilities where cost effective:

- Solar water and pool heating.
- Photovoltaics (e.g., solar panels).
- Cogeneration.

Policy (d): Establish a fund for improving energy efficiency of municipal facilities, and reinvest up to 50 percent of energy savings for implementing the actions of this Energy Element.

Policy (e): Develop an energy plan coordinated with utilities, local and regional government agencies.

Policy (f): Consider establishing a City energy service/coordinator with adequate support to promote, implement and administer the Energy Element.

Related Objective Numbers

Land Use Element - A-5, A-7

Housing Element - C-2

Circulation Element - B-1, B-2, B-3, B-4, B-5,
B-6, B-7

Noise Element - F-1

Integrated Waste Management Element H-1

Conservation Open Space Element - L-2, L-9

Growth Management Element - M-4, M-5

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ELEMENT J

SAFETY

GOAL: Minimize the danger to life and property from man made and natural hazards, including fire hazards, flood hazards, non-seismic geologic hazards and air hazards.

Description of Safety Element

Community safety programs can reduce the potential for loss of life, injuries, and property damage associated with natural and man-induced hazards. These hazards include fire, floods, geologic hazards, and aircraft operations. This element provides guidelines for the protection of the community from these hazards. Both the Seismic and Safety Elements should be considered together in the planning process for the provision of a safe environment. Refer to the Seismic Element for identification of seismic hazards and policies to minimize them.

Existing Conditions

The two primary civic agencies which respond to safety hazards are the police and fire departments. The City's main police facility is located in the City Hall. Additional satellite facilities may be established as needed. Booking and detention facilities are provided under an agreement with the County of Orange. The City has a contract with the Orange County Fire Authority for fire fighting services within the City. Please see Figure J-1 for the location of existing public safety facilities.

The potential hazards most prevalent in the City of Irvine are from fires, floods, geologic hazards, and aircraft operations.

The following is a brief summary of existing conditions and preventive measures for each hazard.

1. Fire. Fire hazards as depicted in Figure J- 2 are probable in the City due to large quantities of combustible vegetation, poor access to fire hazard areas, and lack of water supply for fire protection in fire hazard areas. The very high fire severity zones depicted in Figure J-2 were established pursuant to recent state legislation, AB337. Development within these zones is regulated through the Uniform Building Code and Uniform Fire Code. Requirements imposed as part of the development review process include fire lanes, fuel modification zones, fire retardant building materials, smoke detectors and automatic sprinkler systems, depending on the size and type of development.

Special fire protection consideration is given to industries handling hazardous materials, multi-story buildings with high occupant levels, and large built-up areas with combustible roof coverings. High hazard areas are predominantly in the hilly portions of the City with volatile chaparral as the fuel source.

For urban areas within the City, the Orange County Fire Authority is able to satisfy fire and basic life safety goals by having a first due unit on scene within a five minute response time 80% of the time. Advanced life support response goals are within eight minutes 80% of the time. The service demand for areas considered suburban, rural, or undeveloped typically can expect increased response time goals of up to 15-20 minutes. In order to mitigate the impact of longer response times in these areas, certain building and fire codes are applied at time of development. Some of these may include automatic fire sprinklers, fire retardant building materials, and other special response enhancements unique to the development. The City's Uniform Building Code requires smoke detectors in all new residential developments.

2. Flood Figure J-3 depicts areas subject to the theoretical 100-year flood. Flood waters are expected to be shallow with depths that do not exceed three to four feet even in the case of a 100 year flood. Developed areas within the City are not subject to the 100 year flood as drainage measures, such as channels, drains, etc., have been put in place where structures would otherwise be threatened.

3. Geologic Hazard The City uses the U.S. Department of Agriculture classification of soils with respect to their suitability for urban development, resource conservation,

and agriculture. Soil limitation ratings relate to the soil's capacity to support load and resist settlement. A rating of "slight" refers to soil properties which are favorable for construction. A "moderate" rating means that some soil properties are unfavorable, but that they can be overcome or modified by special planning and design. Soils identified as having "severe" limitations are those so unfavorable and so difficult to correct as to require major soil reclamation or special design. It should be noted that these soil limitations are general. They are intended to be used as a planning aid to identify areas requiring specific site investigations to consign the existing conditions and recommend corrective measures necessary to reduce potential hazards.

Corrective engineering techniques are implemented during construction in order to reduce the risk caused by potential geologic problems.

4. Aircraft Operations Three airports are located adjacent to the City of Irvine. These include John Wayne Airport, Marine Corps Air Station (MCAS), Tustin, and Marine Corps Air Station (MCAS), El Toro. John Wayne Airport is along the City's western border just south and west of Planning Area 36 (Irvine Business Complex). It provides commercial jet service and has a considerable amount of light aircraft traffic.

MCAS, Tustin is also located along the City's western border just north and west of Planning Areas 36 and 38. This facility is used for training helicopter pilots and is scheduled to be closed in 1999.

MCAS, El Toro, located northwest of Planning Areas 32 and 35 (Irvine Industrial Complex East/Spectrum), has a full-size airfield for training jet-fighter pilots. Figure J-4 shows aircraft crash hazard zones for MCAS El Toro and MCAS Tustin, as well as the clear zone for John Wayne Airport. These zones establish areas where the risk of a crash for a certain unit of land area is approximately four to five times as great in each successive impact zone. Thus, an acre of land in Zone A (Clear Zone), the zone of highest crash hazard, is expected to have approximately 4 to 5 times the risk of a crash as an acre of land in Zone B (APZ 1), and 16 to 20 times the risk of a crash as an acre of land in Zone C (APZ 2).

The risk of aircraft crashes is an important consideration in planning around airports, particularly military bases where pilots are trained to use high performance aircraft. The size of the area affected by a crash and the ability to predict its impact and location varies with the type of aircraft. Most problems are expected to occur within normal flight patterns. However, a disabled aircraft may choose to take a straight-in approach to any runway.

Trends

1. Fires The fire hazard areas are expected to remain dangerous until development encroaches in the Very High Fire Hazard Severity Zones and other brush covered areas. As development takes place, probable partial removal of the fuel source will decrease fire potential. However, the proposed densities for the fire hazard areas are low, requiring less grading of natural terrain than for higher densities. This means that while fire hazards are reduced, they will

not be removed to the extent they are in the City's flatland areas.

2. Floods Historical documents show that damaging floods occurred in the Los Angeles Basin in 1884, 1916, 1927, 1937, 1938, 1969, and 1997. The last one included the inundation of the lowlands in the Santiago Hills, EL Toro, San Joaquin Marsh, and Upper Newport Bay areas. It is expected that future developments will be protected from 100-year floods by the continuation of measures which alleviate flood hazards, such as channels, retention basins, and drains.

3. Soils Soil types will remain virtually unchanged over time. It is expected that development will continue to incorporate engineering techniques to correct soil problems.

4. Aircraft Operations Although MCAS, Tustin and MCAS, El Toro are slated for closure in 1999, aircraft operations will continue until closure. The crash hazard potential should remain constant as outlined in Existing Conditions unless the operations are changed. Long-term impacts are hard to ascertain due to the constantly changing technology of the aircraft industry. Conditions may further change with the closure of MCAS, El Toro with consideration also given to reuse options.

Identification of Issues

1. How can the City reduce the risk to life and property associated with aircraft operations adjacent to the City?
2. How can the City reduce the probability of fire, non-seismic geologic, flood, and air operation hazards?
3. What actions can the City take to reduce the severity of hazards (i.e., reducing the loss of life and personal property) when natural disasters occur?

Response to Issues

The following objectives and policies have been formulated to respond to safety issues.

OBJECTIVE J-1: HAZARD OCCURRENCE

Identify actions that the City, in concert with other jurisdictions, must take to reduce the probability of hazard occurrence.

The following policies support Objective J-1:

Policy (a): Regulate the type and intensity of development in areas associated with potential land use and air operational hazards through land use controls. Refer to

Figures J-4 for guidance in determining locations of hazardous areas.

Policy (b): Apply appropriate standard conditions which require geologic testing and structural modification in areas with slope instability and landslide potential.

Policy (c): Establish criteria for land development in hillside areas with emphasis on fire retardant materials, minimization of exposure risk to wildfire and adjacent structure fires, provision of access for fire fighting personnel and equipment, and removal of combustible vegetation.

Policy (d): Use the most current available Marine Corps certified Air Installations Compatible Use Zones (AICUZ) Study as a planning resource for evaluating aircraft operations, land use compatibility and land use intensity. (Refer to the Memorandum of Understanding between the City and Marine Corps Air Station EL Toro and City Council Resolution 86-54.)

Policy (e): Require development proposals to be reviewed by the Orange County Fire Authority to ensure adequate fire protection and precautions occur.

OBJECTIVE J-2: DISASTER RESPONSE

Identify actions that the City, in conjunction with other jurisdictions, must take to reduce the severity of disasters.

The following policies support Objective J-2:

Policy (a): Ensure that developments will be properly served by police and fire service.

Policy (b): Ensure that each development will have adequate emergency ingress and egress.

Policy (c): Phase the timing of development in relation to the City's ability to provide police and fire service.

Policy (d): Continue to maintain and implement the City of Irvine's Emergency Plan.

OBJECTIVE J-3: INSURANCE PROGRAMS

Qualify for the national flood and other disaster insurance programs.

The following policies support Objective J-3:

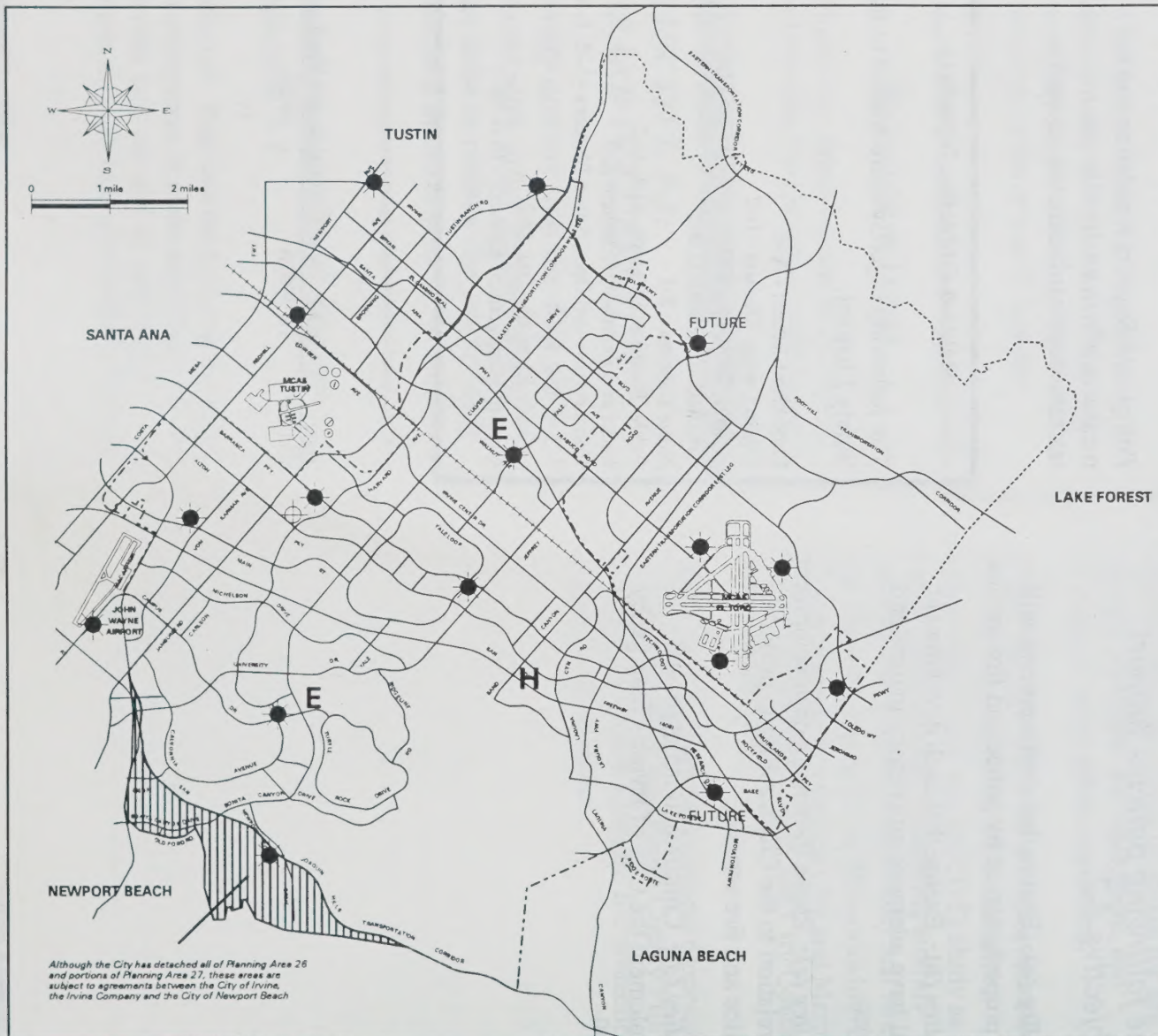
Policy (a): Support legislation and tax measures which tie disaster insurance and tax rates to hazard reduction measures.

Related Objective Numbers

The following objectives are related to the Safety Element:

Land Use Element - A-6
Urban Design Element - B-2
Housing Element - C-2
Circulation Element D B-8
Noise Element - F-1
Public Facilities Element - G-1, G-2
Parks and Recreation Element K-3
Conservation and Open Space Element - L-2, L-4, L-5, L-6, L-9, L-10
Seismic Element - D-1, D-2
Growth Management Element - M-6, M-7

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Figure J-1

PUBLIC SAFETY FACILITIES

LEGEND

- City Sphere of Influence
- City Boundary
- ★ Fire Station *
- ⊕ Police Station **
- H Irvine Medical Center Hospital
- E Potential Emergency Shelter Location (High Schools)

NOTES:

Elementary Schools may also be designated as Emergency Shelters.

* Some fire station locations are outside the City boundary. These are shown for planning purposes because they may respond to calls within Irvine.

** In addition to the police stations shown on the diagram, the Public Safety Department may establish temporary satellite facilities as required to respond to community needs.

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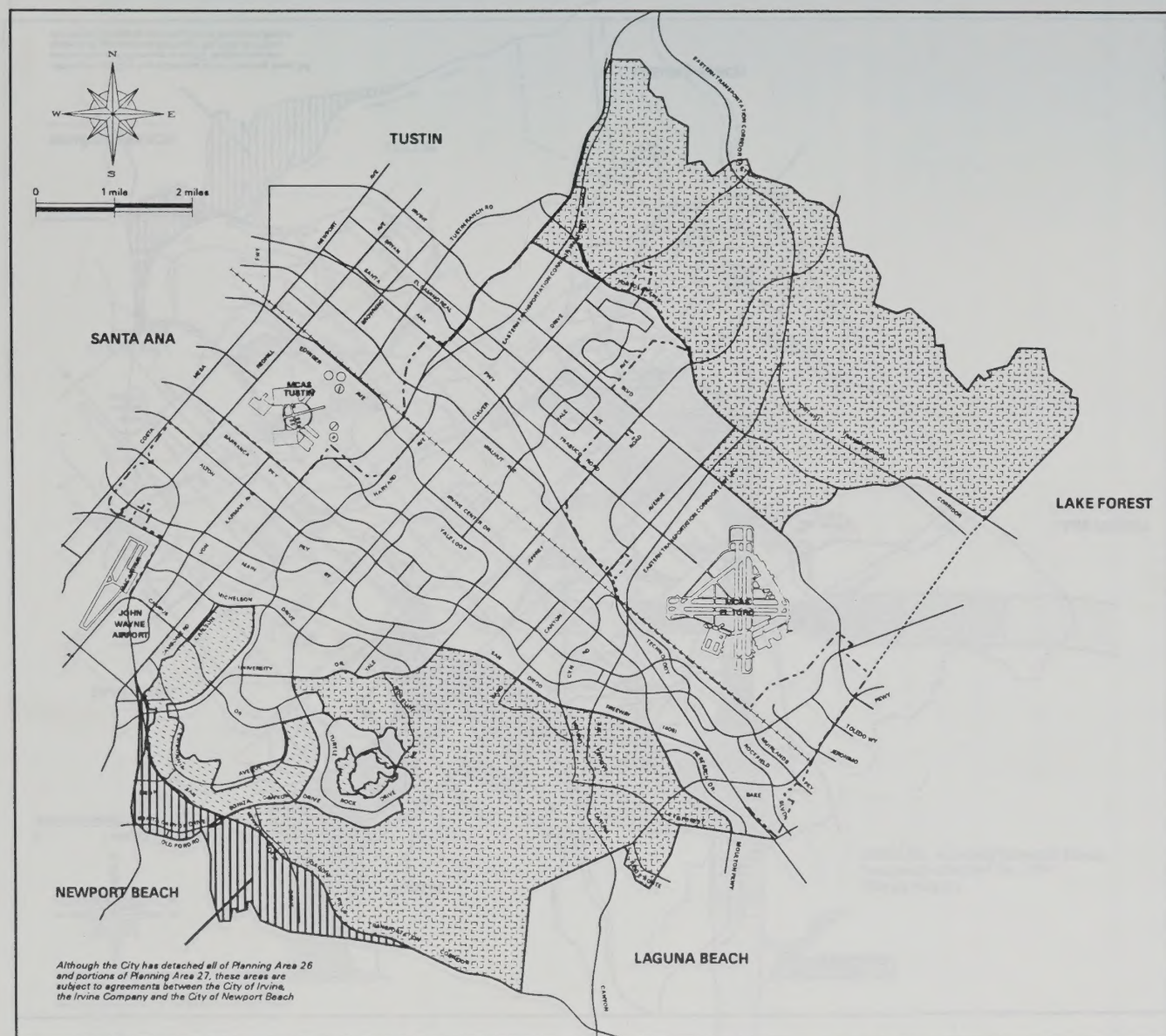


Figure J-2

FIRE HAZARD AREAS

LEGEND

- City Sphere of Influence
- City Boundary
- High Fire Severity Rating
- Open Space with Fire Potential designated by Orange County Fire Authority



Although the City has detached all of Planning Area 26 and portions of Planning Area 27, these areas are subject to agreements between the City of Irvine, the Irvine Company and the City of Newport Beach

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Figure J-3

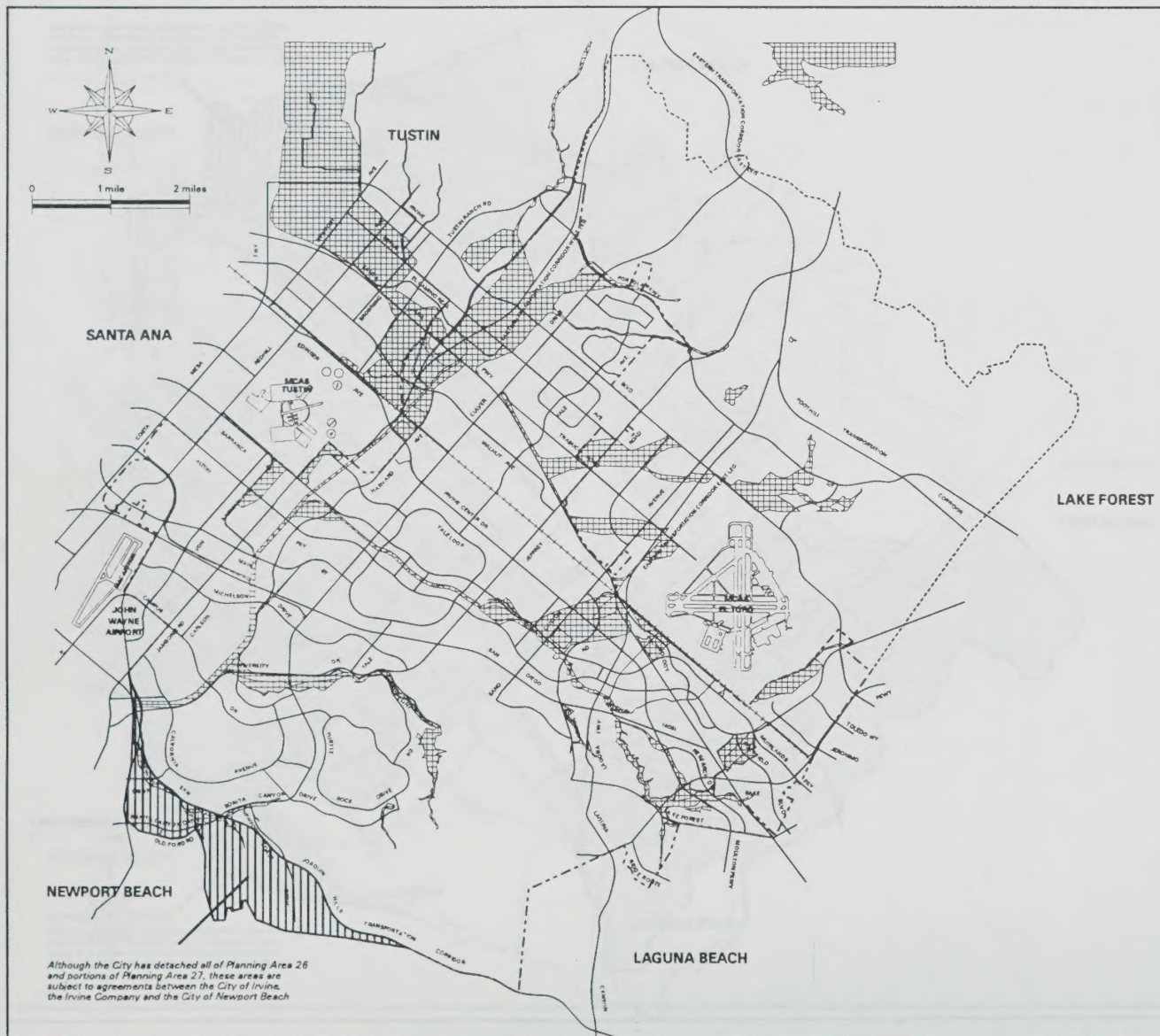
FLOOD HAZARD AREAS

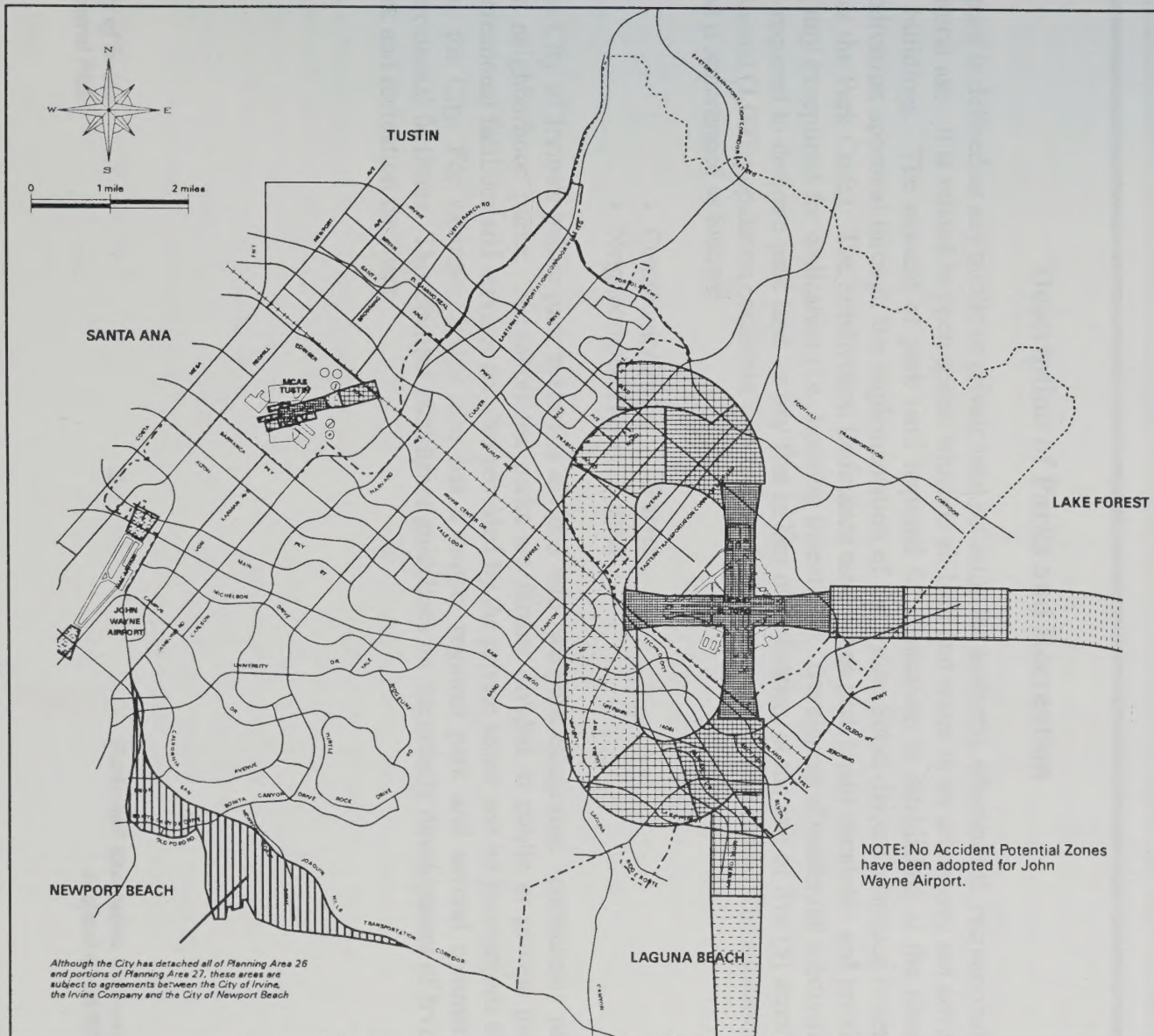
LEGEND

- City Sphere of Influence
- - - - - City Boundary
-  Flood Hazard Areas
(theoretical 100-year flood area as designated by Federal Emergency Management Agency FEMA)

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Figure J-4

AIRCRAFT CRASH HAZARD ZONES

LEGEND

- City Sphere of Influence
- - - - - City Boundary

MILITARY DESIGNATIONS

- Clear Zone - Extreme Hazard
- APZ-1 - Limited Hazard
- APZ-2 - Minimal Hazard
- Local Corridor - Minimal Hazard
- Primary Arrival Corridor
- Primary Departure Corridor

CIVILIAN DESIGNATIONS

- John Wayne Airport Clear Zones

Date
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City Council
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ELEMENT K **PARKS AND RECREATION**

GOAL: Provide park and recreation opportunities at a level that maximizes available funds and enables residents of all ages to utilize their leisure time in a rewarding, relaxing, and creative manner.

Description of Parks and Recreation

A park is defined as any public or private land set aside for aesthetic, educational, recreational, or cultural use. It is related to open space, which is all land and water in an urban area not covered by buildings. The amount of park land required for dedication is established at the time of subdivision approval through the implementation of the Irvine Subdivision Ordinance (referred to as the Park Code). The Subdivision Ordinance establishes park credit standards and provides for any exceptions for dedication (i.e., housing incentives). Developers of residential subdivisions are required to dedicate park land, or pay fees in lieu of dedication, at the rate of five (5) acres per thousand (1,000) population consistent with the standards contained in these codes. The allocation of land is apportioned as follows:

- Community Parks: 2 acres
- Neighborhood Parks: 3 acres

The City of Irvine's public park system is divided into two park categories: community parks and neighborhood parks. Neighborhood parks are further divided in public or private parks. Recreational facilities and services are also provided by the private sector and by jurisdictions other than the City. For example, Irvine also has a county regional park and several commercial recreational facilities. This element establishes guidelines for the orderly development of Irvine's park and recreation facilities.

Existing Conditions

City recreational facilities and services include neighborhood parks, community parks and programs, an aquatic center, athletic complexes, a nature center and a fine arts center. The City has ten developed community park sites totaling 179 acres and one special facility of 15 acres. Expansions are planned at two of the park sites and another 45 acre site is in design development. There are 24 public neighborhood parks and over 180 private neighborhood parks. In addition, the City has 8 landscaped public recreational trails. Table K-1 provides descriptions park types within the City. Tables G-1 and G-2 provide standards and guidelines, respectively, for specific types of facilities relative to population. The Irvine Community Parks Master Plan provides guidelines for siting of community parks as well as design standards for specific facilities, such as golf courses, riding and hiking trails and picnic facilities.

The City jointly provides recreational facilities with other public agencies, such as a community theater. Additional facilities and services located in parks include child care centers and senior centers. Mason Regional Park (operated by the County of Orange) currently provides recreational and open space facilities for the general public.

Additional recreation and leisure opportunities are available to the residents of Irvine because of its central location in Orange County. Public beaches, local mountains, natural parks, and deserts are all within short traveling distance from Irvine; including Aliso Wood Canyon Regional Park, Limestone Canyon Regional Park, Crystal Cove State Park and the Laguna

Coast Wilderness Park. Southern California is also the location of several world-famous amusement parks, such as Disneyland and Knott's Berry Farm. Movie theatres, arcades, bowling alleys, skating rinks and miniature golf courses are just a few of the many recreational options available in the City and the region.

Figure K-1 shows the location of existing recreational facilities in the City.

Trends

In the past, developers have satisfied their dedication requirements with land alone. The recent trend has been to meet park dedication requirements by providing a combination of facilities, fees, and land. The City will continue to consider all creative funding sources to help defray improvement and maintenance costs.

As the community ages, more emphasis will be placed on park facility maintenance and rehabilitation programs as opposed to new construction. This change in direction from facility development to facility maintenance and rehabilitation requires a change in the focus of the parks and recreation programs. It will also require continual review and assessment of options to fund needed maintenance and rehabilitation programs. At the City, this is incorporated into the annual review of the Capital Improvement Program and the Strategic Business Plan.

Irvine's population has changed considerably since the City's original General Plan was adopted in 1973. The size of the average Irvine household has decreased from 3.44 persons to 2.61 persons in 1990. There are fewer young children and an increase in the

number of citizens 65 years and older. It is expected that the trend towards smaller families and the increase in the senior population will continue.

Just as Irvine's demographics have changed, so have its recreation demands. Older children and adults have shared an increased interest in team sports such as soccer and baseball. These recreation trends will challenge the flexibility of Irvine's existing park system. Due to the increasing costs of land, new housing is often developed at higher densities with less open space in private yards. This will place an additional burden on public/private open space and parks.

It is expected that the current trends in City revenues will continue to affect funds available for park improvements maintenance and rehabilitation. It is also expected that developers will continue to request that recreational amenities be credited towards park requirements, resulting in a reduction in actual parkland. However, this is an important trade off to ensure that parkland does not remain vacant because of diminishing governmental resources. Furthermore, nonresidential development will continue to generate additional demands on the public park and recreation system, for example, through employee participation in adult athletic leagues. It is expected that the approval authority will consider park dedication requests and evaluate the balance between land dedicated and improvements provided consistent with current City Council Policy.

Identification of Issues

- 1. How can the City provide a quality park system which offers variety and flexibility to meet anticipated needs and demands, given a reduction in dedicated parkland and funds for the purchase of land, improvements and maintenance?**
- 2. How can the City adapt the parkland and facilities to respond to the changing needs over time?**
- 3. How can the City maximize the provision of recreational acquired through the parkland dedication process?**
- 4. How can the City continue park maintenance and rehabilitation at current standards at the lowest possible cost to the City?**

Response to Issues

The following objectives and policies guide the development, operation, and maintenance of parks.

OBJECTIVE K-1: RECREATIONAL OPPORTUNITIES

Provide for a broad spectrum of recreational opportunities and park facilities, in either public or private ownership, to accommodate a variety of types and sizes of functions.

The following policies support Objective K-1:

Policy (a) Provide community parks which serve residents of a planning area to citywide level by providing facilities appropriate for citizens of various ages and interests, such as:

- Community centers.
- Athletic facilities.
- Competition level swimming pools.
- Picnic areas.
- Cultural centers.
- Day care centers.

Policy (b) Encourage the development of special areas in community parks that will enhance recreational and leisure opportunities in the City, such as the Interpretive Center in Turtle Rock Community Park and the senior centers in Rancho San Joaquin and Woodbridge and the fine arts center in Heritage Park.

Policy (c) Provide neighborhood parks that respond to recreational needs at a local level.

Policy (d): Strongly advocate the creation of homeowners associations as a way to encourage the ownership and maintenance of private neighborhood parks.

Policy (e) Ensure that public parks are developed pursuant to Table G-2 with, recreational amenities such as active play areas, passive open space, picnic facilities, and athletic fields and courts per standards identified in the Community Parks Master Plan.

Policy (f) Support and work with the County of Orange and the state in the development of regional and state parks.

Policy (g) Encourage citizen participation in the planning of park facilities.

Policy (h) Purchase and improve park and recreation facilities consistent with the availability of capital improvement funds

Policy (i) Pursue state and federal funding sources to acquire park facilities in addition to those dedicated to the City.

Policy (j) Adopt guidelines to permit the leasing of public parkland for use by private enterprise for commercial recreational purposes.

OBJECTIVE K-2: PARK DEDICATION

*Require developers of residential land to dedicate land or fees for parks, consistent with the **Quimby Act**, **Subdivision Map Act**, **Irvine Subdivision and Zoning Ordinances** and **General Plan** standards.*

*The following policies support
Objective K-2:*

Policy (a) Require review by the Community Services Commission and /or the Planning Commission, as appropriate, of all land and facilities proposed for park dedication.

Policy (b) Use the adopted Community Parks Master Plan as a guideline for future development of community parks.

Policy (c) Require that applications for subdivision maps for residential development include a park program which identifies the following:

- Adaptability of the land for park and recreation use.
- Suitability of proposed facilities to meet the recreation needs of residents the park is to serve.
- Responsible agency and costs of maintenance.
- Location of the park or facilities for convenient access to housing, school, and employment centers.

Policy (d): Require park land dedicated by developers to meet minimum improvement standards to ensure a functional use of land. Use the Local Park Code as the standard for design and siting of neighborhood parks.

Policy (e): Grant credit for private neighborhood park facilities to those facilities identified in the City's Local Park Code.

Policy (f): Allow developers of low and moderate income housing to dedicate less park land and amenities subject to review by the Planning Commission.

Policy (g) Ensure parks developed in new residential communities, including areas to be annexed, include a balance of amenities comparable to facilities provided in existing neighborhoods with private and public facilities. Such amenities may include, but are not limited to, swimming pools, club houses, and tennis courts.

**OBJECTIVE K-3:
PARK LOCATION**

*Locate park and recreation facilities for
safe and easy access by their intended
users.*

*The following policies support
Objective K-3:*

Policy (a) Require proposed park locations to be reviewed at the time of tentative tract approval to ensure safe and easy access for occupants of surrounding land uses.

Policy (b) Locate parks adjacent to school sites and other public facilities when feasible to reduce development and operating costs.

Policy (c) Use the latest adopted Community Parks Master Plan as a guideline for future siting of community parks:

- Locate parks adjacent to public trails. Trail linkages should serve to create a connected park system.
- Link parks and trails to other open space.

OBJECTIVE K-4: PARK MAINTENANCE AND REHABILITATION

Ensure that Irvine's park system is developed, maintained and rehabilitated in a manner that is cost-effective and consistent with the community's needs and ability to pay.

The following policies support Objective K-4:

Policy (a) Pursue all possible methods to generate revenue for the maintenance and rehabilitation of parks, such as maintenance districts, commercial leasing, user fees and other available private and public funding sources.

Policy (b) Maintain and rehabilitate the City's public parks consistent with the Strategic Business Plan and the availability of capital improvement funds.

Policy (c) Require that all public neighborhood parks be maintained and rehabilitated by the City to ensure their continued availability and use for residents.

Policy (d) Require maintenance and rehabilitation of all private neighborhood parks by the responsible homeowners association through a recorded agreement requiring the perpetual private ownership and maintenance of these parks.

Policy (e) Pursue joint use agreements with the Irvine and Tustin Unified School District and other educational entities.

Policy (f) Initiate discussions with local colleges and universities for joint-use of recreational facilities located on the campuses of these educational institutions.

RELATED OBJECTIVE NUMBERS

Housing Element - C-3, C-5
Circulation Element -B-3, B-4, B -5, B -7
Public Facilities and Services Element - G-1
Conservation and Open Space Element -L-1, L-2, L 5
Cultural Resources Element - E-1, E-2

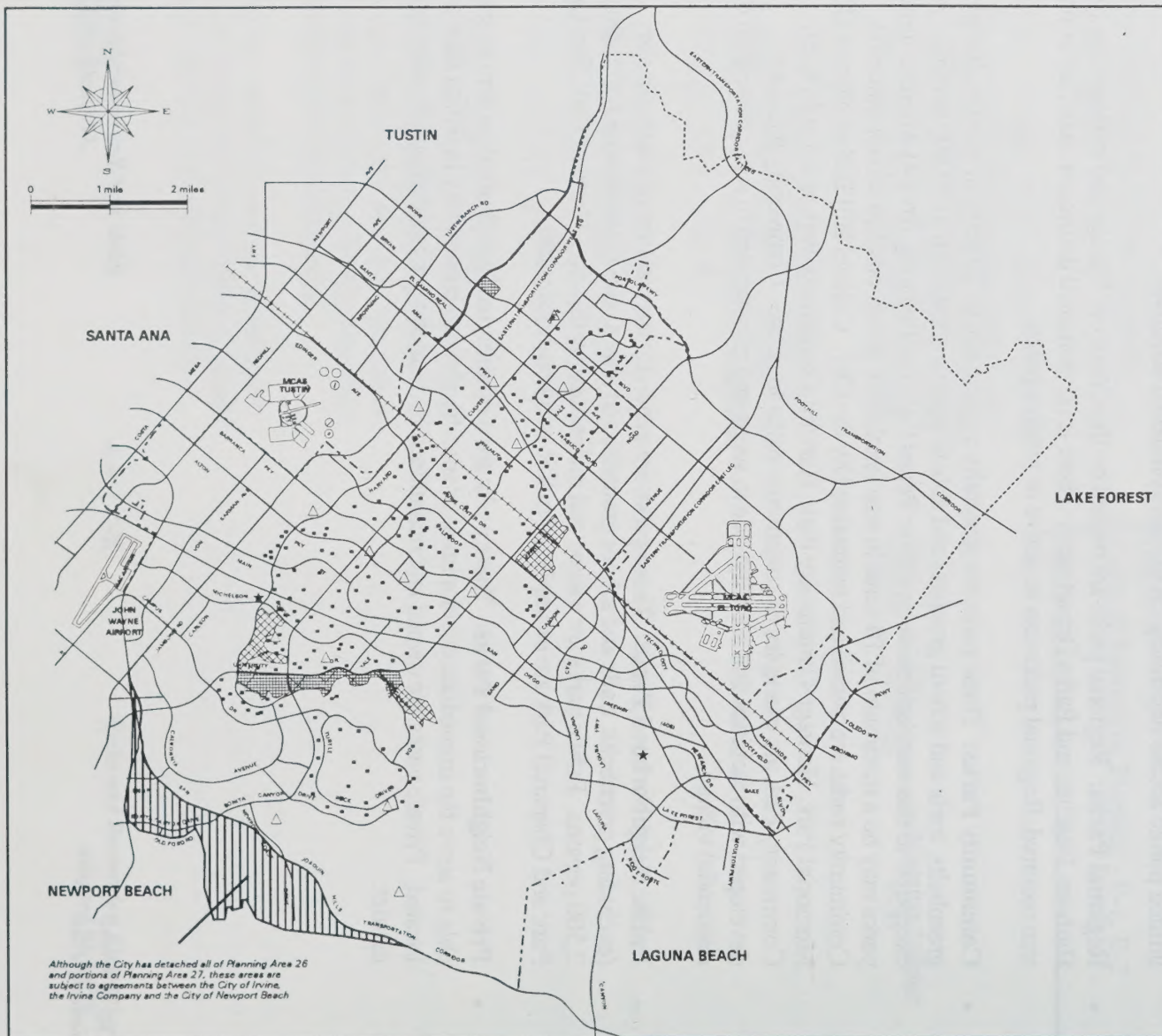
<u>Date</u>	<u>GPA</u>	<u>Resolution Number</u>
03/09/99	18930-GA	99-29

Table K-1

Parks and Recreation Facility Descriptions

PARK FACILITIES: There are five types of park facilities provided in Irvine. Each type is described below:

- **Regional Open Space:** Regional open space areas are lands primarily acquired thorough the dedications agreed to under the Implementation Actions Program of the Conservation and Open Space Element. Once dedicated to the city the land becomes permanent public open space area. These areas vary in size and location throughout the City and may have full or limited public access depending on the environmental sensitivity.
- **Regional Parks:** Regional parks are owned by the County of Orange and managed by the Harbors, Beaches and Parks Department. There is no mandated dedication standard or park size required. Regional parks can be active or passive parks.
- **Community Parks:** These parks are generally a minimum of 20 acres in size (excluding greenbelts, trails and school grounds) and able to serve a population of 10,000 persons. An exception to this standard exists in Lower Peters Canyon (Planning Area 4) where community parks may be a minimum of 10 acres in size (excluding greenbelts and school grounds). Community parks are owned and maintained by the City. Colonel Bill Barber Marine Corps Memorial Park, Heritage Community Park, Harvard Community Park and Turtle Rock Community Park are examples of community parks in Irvine. Community parks are developed with facilities that are Citywide in scope and are intended to serve more than one residential village.
- **Public Neighborhood Parks:** These parks are generally a minimum of 4 acres in size (excluding greenbelts, trails and school grounds) and able to serve a minimum population of 2,500 persons. Public parks are owned and maintained by the city. Orchard Park, San Carlo Park and Chaparral Park are examples of public neighborhood parks.
- **Private Neighborhood Parks:** These parks are a minimum of one third of an acre in size and able to serve the immediate development or specific planned community in which they are located. Private parks are owned and maintained by homeowner associations or maintenance district.



City of Irvine General Plan



Figure K-1

RECREATIONAL FACILITIES

LEGEND

- City Sphere of Influence
- City Boundary
- Park *
- △ Community Park
- ★ Major Private Commercial Recreation Facilities
- Regional ** Park
- Public Golf Course

* Includes neighborhood parks and private homeowners association recreation areas. Some private parks shown on the diagram may not meet the current minimum acreage requirement.

Date
Adopted: 3/9/99

City Council
Resolution: 99-29

ELEMENT L **CONSERVATION AND OPEN SPACE**

GOAL: Maintain and preserve the environmental systems as a major feature in the City.

Description of Conservation and Open Space

Conservation is the wise use, management, and preservation of natural resources to assure their continued availability and viability. Open space is defined as lands which provide for the preservation of natural resources such as plant and animal habitat, managed production of resources, outdoor recreation, or public health and safety (i.e., air crash hazard zones).

Since conservation of resources and open space are so closely related, these two required components of the General Plan are combined into one element. This element provides long-term guidance for the preservation of significant natural resources and open space areas. The value of this element is threefold. First, it provides mechanisms for ensuring a balance between the urban and natural environments within the City. Secondly, it recognizes natural and man-made hazards which might potentially affect the community if development were to occur. Finally, it provides specific policies and a program for preserving, managing, and using natural and man-made resources.

Existing Conditions

The City of Irvine lies within the coastal and foothill region of central Orange County. The major land forms are: 1) Santiago Hills; 2) Northern Flatlands; 3) Central Flatlands; and 4) San Joaquin Hills (these regions are shown on Figure L-1, Land Form Zones).

The major characteristics of the four land form areas and their associated biotic and societal systems are briefly discussed below.

Santiago Hills: The Santiago Hills form the City's northern sphere of influence boundary. They consist of moderately steep to steep unbuildable slopes, canyons, plateaus, and narrow ridges which obtain an elevation of 1,700 feet. A series of eroded sandstone gorges known as the "sinks" are the most significant physical feature and are located in the southeast corner of the Santiago Hills. Other important features are the canyons, which include Aqua Chignon,

Bee, Hicks, Little Joaquin, Rattlesnake, and Round.

The Santiago Hills, with the exception of several unimproved dirt roads and limited agricultural activities, have retained most of their natural biotic character. The biotic communities within this area are listed below:

- | | |
|-------------------------|--------------|
| 1. Freshwater marsh | Riparian |
| 2. Coastal sage scrub | Chaparral |
| 3. Oak woodland | Agricultural |
| 4. Introduced grassland | Urban |

Presently man's effect on the topography and biotic systems of the Santiago Hills has been minimal with the exception of Frank Bowerman Landfill (Class III facility), the Eastern Transportation Corridor and a few flood control basins. Other important societal features of this area include extensive archaeological, historical, and paleontological resources and agricultural (orchards) and grazing lands.

Northern Flatlands: The flatlands extend from the Santiago Hills to the Santa Ana Freeway (I-5). This area, known as the Tustin Plain, is nearly flat and gradually slopes from the northeast to the southeast. Agua Chignon Wash, Bee Canyon Wash, Borrego Canyon Wash, Hicks Canyon Wash, and Peters Canyon Wash traverse this area. These streams are a part of the San Diego Creek watershed that originates in the Santiago Hills.

Generally, surface soils within the Northern Flatlands consist of fine grained mixtures of sands, silts, and clay, and are classified as "prime" Class I and II agricultural soils by the U.S. Soils Conservation Service (1976).

The Northern Flatlands natural biotic communities have been altered by agricultural activities and urban development. As a result, this area's two biotic communities, Farmland/Rural and Urban, are mostly environmentally simple and artificially managed. This area hosts orchards and row crops, eucalyptus windrows and non-native ornamental vegetation.

The notable societal features of this area include MCAS El Toro, residential developments, agricultural lands, historical resources, and Rattlesnake, Siphon, and Lambert reservoirs.

Central Flatlands: The Central Flatlands are also a portion of the Tustin Plain between the Santa Ana Freeway (I-5) and the San Diego Freeway (I-405). The area is extremely flat. San Diego Creek and Peters Canyon Wash cross this area. The Flatlands natural biotic communities have for the most part been altered by agricultural activities and urban development. The primary biotic communities are farmland/rural, urban and riparian (San Diego Creek within Planning Areas 12 and 13). Overall, the biotic communities are ecologically simple and manipulated, except for the riparian community in Planning Areas 12 and 13.

The Central Flatlands contain the City's core development area, and as such, the greatest amount of interaction among the built and environmental systems have occurred.

San Joaquin Hills: The San Joaquin Hills parallel the Pacific Ocean and form the City's southern boundary. The area consists of rolling terrain with moderately steep slopes, canyons, and narrow ridges. Other significant geophysical features are

spectacular rock outcroppings, many of which contain eroded sandstone caves; Shady Canyon fault; Bommer, Coyote, and Shady Canyons; and Quail Hill.

As a consequence of development in this area, some native habitats have been modified while others, in the steeper hills and canyon bottoms, remain undisturbed. However, unique concentrations of animals, such as Canada Geese, occur in the San Joaquin Marsh and Sand Canyon Wash. In addition, the San Joaquin Hills provide an important link to larger regional habitat areas including Laguna Canyon, Laurel Canyon, Crystal Cove State Park, and the Irvine coastal dedication area. This area contains the biotic communities listed below:

- | | |
|-------------------------|--------------|
| 1. Freshwater marsh | Riparian |
| 2. Coastal sage scrub | Chaparral |
| 3. Oak woodland | Agricultural |
| 4. Introduced grassland | Urban |

Key societal features are former Coyote Canyon landfill; University of California at Irvine; archaeological, historical, and paleontological resources; agricultural row crops (Planning Areas 17 and 34); residential and industrial development; and San Joaquin Marsh, adjacent to the Upper Newport Bay Ecological Reserve.

Conservation and Open Space Element Characteristics

The Conservation and Open Space Element land use diagram shows the location of open space areas (Figure L-2). As shown on the diagram, the Conservation/Open Space land use category contains six subcategories:

Preservation, Recreation, Water Bodies, Agriculture, Golf Course Overlay, and Landfill Overlay. Specific definitions and uses are described in the Land Use Element.

Outlined below are the central concepts contained within this element:

1. Develop conservation and open space areas so that they form large contiguous areas and may be integrated into local and regional conservation and open space areas.

For example, there are three large and contiguous blocks of land which may be integrated into local and regional conservation and open space areas. These areas are the Santiago Hills, San Joaquin Marsh, and San Joaquin Hills.

2. Link conservation and open space areas together through a continuous linear system (open space spines) such as major drainage channels, public utility easements (gas, electric, and railroad rights-of-way), and other linear features (i.e., eucalyptus windrows).

For example, the open space spine network is comprised of two north/south spines (Peters Canyon Wash and Jeffrey Road) and six east/west spines (Hicks Canyon Wash, Venta Spur Trail, Edison easement, San Diego Creek, Edison/I-405 easement, and University Drive/Mason Regional Park). Generally, the north/south open space spines link larger conservation and open space areas in the Santiago Hills to conservation and open space areas in the San Joaquin Hills.

Develop conservation and open space areas which result in the preservation of natural and man-made resources.

For example, the San Diego Creek riparian community and the San Joaquin Marsh wetlands have been designated for preservation because of their valuable biotic resources. The Lomas Ridge has been designated for preservation because of its unique geological formations (sinks) and geologic hazards (steep slopes and landslides), as well as for its cultural resources.

Designate conservation and open space areas that will minimize the impacts from natural and man-made hazards on development patterns.

For example, several areas have been designated for conservation and open space purposes in order to provide for public safety. Examples of such areas are the agricultural lands around MCAS El Toro Peters Canyon Wash (drainage) and the Lomas Ridge (steep slopes)(Figure L-2). Assure the permanent preservation of conservation and open space areas through a phased dedication and compensating development opportunities program which transfers development opportunities from conservation and open space areas and consolidates development in appropriate areas.

This phased dedication and compensating development opportunities program, also known as the "Implementation Action Program," links the Land Use and Conservation and Open Space Elements together through the development entitlement process. Areas covered by the

Implementing Action Program are shown in Figure L-3.

The program provides for permanent protection of significant, large scale conservation and open space areas by public ownership. Through this program, visually significant ridgelines and hillsides, significant biotic communities (e.g., Riparian, Marsh, and Oak Woodland), recreational lands, archeological and paleontological resources and areas subjected to geophysical and societal hazards are permanently preserved. As a result, development impacts such as habitat destruction, land form alteration, and visual and safety concerns are minimized. In addition, this program permits the integration of conservation and open space areas into the local and regional conservation and open space land use plans such as Limestone Regional Park and proposed Irvine Coast Wilderness Regional Park.

Land designated as preservation or recreation constitutes the majority of land to be dedicated through the Implementation Action Program. Community-level parks are to be dedicated separately according to the City's Local Park Code. Lands designated landfill overlay and water are not involved in the program since the land is already controlled by public and/or private agencies or utilities. As such, these areas are already set aside for conservation and open space purposes. Also, land designated as agriculture in Planning Areas 5, 6, 8 and 9 is not included in the program. Resolution of any phased dedication and compensating development opportunities program involving this area will occur at the time of annexation.

The Implementation Action Program is detailed in Objective L-1.

Trends

Examination of Orange County's land use and population growth patterns from 1950 to present indicates an increase in urban land uses and a corresponding decrease in conservation and open space areas. The early stages of urbanization focused on flat land areas such as agricultural lands, flood plains, and wetlands while later stages of development have focused on more rugged terrain such as hillsides. During this time regional land use policies resulted in the conversion of approximately 100 acres of conservation and open space areas to urban land uses per every 1,000 people added to Orange County's population.

Initially the effects on the environmental systems (biotic processes, geophysical forces, and human intervention) due to the conversion of undeveloped land to urban land uses were incremental and localized, at both the county and the city level, since there were thousands of acres of undeveloped land. As such, management and preservation of these areas was not perceived as being urgent. As development continued, the cumulative effects of urbanization on the environmental systems resulted in loss of diversity and disruption of linkages between the environmental systems.

The resulting loss of open space to urban land uses increased public awareness of these shrinking resources. Consequently, the need to properly manage and preserve undeveloped land as designated conservation and open space areas, and increase conservation and open space

planning became a high public priority. In response to this, especially during the late 1970s and 1980s, significant parcels of land were set aside throughout the county for preservation purposes.

Areas identified for their valuable biotic resources are also identified under the Natural Communities Conservation Plan/Habitat Conservation Plan (NCCP/HCP). This conservation strategy, aimed at preserving entire biotic communities, was developed as a result of the NCCP Act passed by the California Legislature in 1991. The successful implementation of this plan will allow conservation of large, diverse areas of natural habitat for the California gnatcatcher and 41 other "identified species" and their habitats. In May of 1996, the City of Irvine, the County of Orange, various other cities and landowners entered into an agreement to place certain lands within the NCCP Reserve and commit to certain responsibilities under this plan. Some of Irvine's responsibilities include considering General Plan amendments and ordinances to implement the plan, reviewing project proposals to ensure consistency with the NCCP, making efforts to acquire conservation easements from landowners not participating in NCCP, and formally committing city-owned lands to the reserve system. The NCCP Reserve and Special Linkage areas within the City and sphere have been identified on Figure L-4, Biotic Resources, as well as on Figure A-3, the Land Use diagram.

Identification of Issues

1. How can conservation and open space objectives be balanced with development objectives?
2. How can conservation and open space areas be integrated into urban development?
3. How can public access and enjoyment of conservation and open space areas be provided?
4. How can the environmental systems be maintained and preserved?
5. How can significant hazards and resource areas be identified and managed so as to protect the public's safety, health and welfare?
6. How can an effective and realistic policy program provide for the permanent preservation and management of conservation and open space areas be established?

Response to Issues

The following objectives and policies have been formulated as a response to the identified conservation and open space issues.

OBJECTIVE L-1:

IMPLEMENTATION ACTION PROGRAM

Establish an implementation action program that provides the opportunity to permanently protect and preserve designated conservation and open space areas as development of designated commercial, industrial, institutional, and residential areas occurs.

The following policies support Objective L-1:

Policy (a): Implement the phased dedication and compensating development program as described in Appendix A.

OBJECTIVE L-2:

BIOTIC RESOURCES

Maintain and preserve areas with significant and diverse biotic communities.

The following policies support Objective L-2:

Policy (a): Utilize Figure L-4, which is derived from the City's Master Environmental

map, and the City's land use impact model in the development review process as informational sources to determine the proximity and extent of biotic resources and potential level of impact.

- The Conservation and Open Space Element is intended to preserve those natural resource areas identified in the Master Environmental Assessment (MEA) which are the most viable and significant. The protection of large, contiguous preservation areas containing the uses set forth in the Implementation Actions Program in Objective L-1 is deemed, on balance, to better protect biotic resources than the protection of small, isolated resources within individual development areas. The Conservation and Open Space Element, through the Implementation Action-Program (Objective L-1), will preserve specific MEA biotic resource areas, in whole or in part, as depicted on the Biotic Resources Map (Figure L-4).

Policy (b): Apply the following resource policies to development areas located within areas identified on the Biotic Resources Map (Figure L-4):

- Resource Areas 16, 31, and 32: The preservation objectives and recommendations to protect 20 percent of the resource area for Buffer Areas 16, 31, and 32 will be achieved satisfactorily by the dedication of preservation areas in accordance with the procedures of the Implementation Actions Program in Objective L-1. Development areas located within Resource Areas 16, 31 and 32 shall not be subject to any biotic preservation, protection, requirements, measures, or mitigations set forth in the MEA for these Buffer Areas.
- Resource Areas 6 and 13: Development as shown on the Land Use Element diagram will be allowed in Marsh Area 6 and Habitat Area 13 in recognition of the dedication of similar resources in the Preservation Areas. Development areas located within Areas 6 and 13 shall not be subject to any preservation, protection, requirements, measures, or mitigations set forth in the MEA for these areas except that riparian/wetland habitat adversely impacted by such development will be mitigated in accordance with procedures established in an open space management and conservation plan.
- Resource Area 28: Development as shown on the Land Use Element diagram will be allowed in Buffer Area 28 provided that any significant adverse development impacts on habitat in Riparian/Wetland Area 9 will be mitigated. The final mitigation measures shall be established in an open space management and conservation plan. Such mitigation measures shall be developed with consideration for the type and resilience of the habitat, the specific type and design of development, and the effect of natural and man-made barriers in the area.
- Eucalyptus Windrows: The integration eucalyptus windrows identified as Area 33 on the MEA and shown as a symbol on Figure L-4, into future development is to be determined by the City during subsequent project review. The Urban Forestry Guideline Manual, adopted by Ordinance 94-08, establishes treatment of windbreaks. However, use of Eucalyptus windrows will be limited in Very High Fire Hazard Severity Zones.

Policy (c): Prepare an Open Space Management and Conservation Plan (OSMCP) as the primary biotic implementation document for establishing compliance with the above (Objective L-2 a and b) Biotic Policies, the timing and phasing of mitigation measures, and the responsibility for implementing mitigation measures. This plan shall be prepared in conjunction with a concept plan and/or zone change application and in accordance with the City's guidelines for open space management and conservation plan reports. In addition, the plan will address transition zones as described below:

- Define transition zones of variable width, at the boundary between development and preservation areas, in the OSMCP where landscaping, fuel modification, and/or grading are proposed in conjunction with development. Where appropriate, the OSMCP will also establish landscaping, grading and/or maintenance guidelines to mitigate any adverse development impacts on Preservation Area lands to be conveyed. The OSMCP may also contain procedures for the conveyance of land and or easements at subsequent levels of development approval pursuant to the Implementation Actions Program. The OSMCP should include the following components, where appropriate:

1. Compatibility Techniques: Use methods of landscaping transition zones and/or development areas which allow development to interface with conservation and open space areas in a manner which mitigates adverse impacts on Preservation Areas to be conveyed. Typically compatibility techniques are employed in transition zone areas and allow for the continued use of habitat and wildlife areas.

2. Fuel Modification Zones: Use a non combustible setback, irrigated and graduated clearing of vegetation and selected plant palettes to reduce fuel loads in areas adjacent to development.
3. Plant Palettes: Use plant palettes which have the following characteristics: drought tolerance, wildlife habitat value, fuel loading and slope stabilization.
4. Public Trails: Provide public access where appropriate, adjacent to development areas abutting the trail, and in accordance with the adopted master plan of bicycle, hiking and equestrian trails.
5. Maintenance Responsibility: Ensure that the transition and fuel modification zones will be maintained by the appropriate property and/or homeowner associations and/or maintenance district.

Policy (d): Mitigation banks in the San Joaquin Marsh may be created for selected development in the City and its sphere of influence.

- That portion of the preservation area in San Joaquin Marsh subject to the Habitat Enhancement and Wetlands Program (approximately 85 acres) will be dedicated to the University of California Natural Reserve System in accordance with the program.
- Portions of the Preservation Area in San Joaquin Marsh not subject to the above program (see Area P in District N, Figure 2 of Appendix A) may be used as a mitigation bank for development impacts in development areas adjacent to the marsh

2 of Appendix A) may be used as a mitigation bank for development impacts in development areas adjacent to the marsh and in other locations throughout the City.

Riparian habitat within development areas may be modified subject to applicable state and federal regulatory requirements of the United States Fish and Wildlife Service, Army Corps of Engineers and the California Department of Fish and Game and mitigation for such modification may be accomplished off site within the San Joaquin Marsh.

Policy (e): Maintain significant riparian areas in preservation areas as natural corridors and sources of shelter, water, and food for wildlife, except where required for infrastructure.

Policy (f): Locate intensive human use in preservation areas away from areas with rare or endangered species, including migratory bird species and rare plant species.

Policy (g): Allow the enhancement of habitat areas, particularly riparian habitat, in all preservation areas as mitigation for any development impacts in other areas. Promote agreements between the California Department of Fish and Game and the landowner to accomplish the creation of new habitat in preservation areas consistent with applicable standards and procedures.

Table D-1

The table on this page is a key to Figure L-4, Biotic Resources. The column on the left is a list of significant biotic factors, and the column on the right explains where each of these factors is to be found on the map.

Resource Areas	Resource Areas Nos.
Buffer Areas	15, 16, 17, 18, 24, 26, 29, 31, 32
Links - Habitat Areas	17, 18
Locally Significant Riparian Habitats	25
Locally Significant Freshwater Marsh Habitat	22
Locally Significant Stands of Native Vegetation	17, 32, 34
Open Water/Shoreline Local Value as Waterfowl Habitat	19, 20, 21, 23, 30
Rare, Endangered and Unique Species Habitat	10, 11, 12, 27
Regionally Significant Riparian Habitat	5, 7, 8, 9, 13, 14
Regionally Significant Oak Woodland Savannah Habitat	1, 2, 3, 4, 5, 14
Regionally Significant Freshwater Marsh Habitat	7, 9
Open Water/Shoreline Regional Significance - Waterfowl Habitat	10, 27
Prime Bird of Prey Foraging/Wintering Area	1, 14
Prime Bird of Prey Nesting/Roosting Area	1, 14
Major Wildlife Movement Corridor	1, 4, 5, 14
Woodland/Brushland - Grassland Ecotone	1, 2, 3, 4, 5, 14

Policy (h): Work cooperatively with the California Fish and Game Department to initiate a cooperative research project to identify wintering foraging preferences of the Canadian Geese. This may include further research efforts to band/tag Canadian Geese to investigate and monitor their movements in the wintering area.

Policy (i): Maintain and preserve the habitat components essential to the Canadian Geese. Measures may include eradicating the wild artichoke, protecting foraging areas from public access during wintering months, and minimizing disturbance of the geese.

Policy (j): Light-sensitive biotic areas should be protected from glare caused by outdoor lighting fixtures.

Policy (k): If determined necessary through project review, a wall or fence combined with vegetation screening shall be constructed between light-sensitive habitat areas and adjacent urban development. Similar measures should be taken wherever light and glare might produce adverse impacts upon light-sensitive biotic areas.

OBJECTIVE L-3: NCCP/HCP IMPLEMENTATION AREAS

***Participate in the Natural
Communities Conservation
Plan/Habitat Conservation Plan
(NCCP/HCP) program to accomplish
multi-species and multi-habitat
conservation.***

The following policies support Objective L-3:

Policy (a): Review project proposals within the reserve system to assure consistency with the NCCP/HCP.

Policy (b): Assure that nonparticipating landowners provide evidence of payment of mitigation fees.

Policy (c): Record and compile Coastal Sage Scrub impacts within the jurisdiction and report the data annually to the County of Orange.

Policy (d): Ensure that NCCP construction-related minimization measures set forth in the NCCP are enforced.

Policy (e): Strive to acquire conservation easements of existing use areas owned by nonparticipating landowners.

Policy (f): Formally commit lands owned within the reserve system to the reserve system, and manage them in accordance with the adopted NCCP.

Policy (g): Use the NCCP as a Program EIR for CEQA purposes, applying the Coastal Sage Scrub (CSS) mitigation measures applicable to planned activities.

Policy (h): Adopt fuel modification ordinances and standards.

OBJECTIVE L- 4: GEOPHYSICAL HAZARDS

Minimize the danger to life and property from geophysical hazards, including, but not limited to, unstable soils, liquefaction, steep slopes, and floodways.

The following policies support Objective L-4:

Policy (a): Continue to coordinate General Plan level hazard information (i.e. Safety and Seismic Elements) to determine the level of hazardous condition(s) potentially affecting any proposed development.

Policy (b): Consider land which is unsuitable for development because of hazards to public health, safety, and welfare for an open space use.

Policy (c): Develop a program emphasizing public safety for geophysical hazardous areas.

Policy (d): Apply the following actions to dam inundation areas as identified in the City's Master Environmental Assessment:

- Require an analysis of the inundation hazards, and measures available to minimize risks, to persons working or residing in the area. These hazards should be identified prior to approval of a tentative map within a dam inundation area. Identify and include all feasible measures as conditions of approval of the tentative map.

- Prepare an emergency evacuation plan pursuant to Government Code Section 8589.5, or as may be amended, for development within a dam inundation area, if, following a review of the inundation maps, the director of the California Office of Emergency Services finds that there exists a risk of injury or death as a result of partial or total dam failure. Should there be a previously approved emergency evacuation plan in effect for the area, that plan shall be updated in light of the current and proposed land uses and the revised plan shall be reconsidered by the state director of Emergency Services.
- Require applicants to submit a statement which assesses the effect of the project upon existing hazards. It should include revised dam inundation maps reflecting changes, if any, resulting from the proposed development and its effect upon existing hazards and inundation boundaries. This should occur prior to the issuance of grading permits within a dam inundation area.
- Require the submittal of a document which will serve as an information notice to future property owners regarding dam inundation hazards and the existence of emergency evacuation plans for the area, if any, prior to the submittal of approvals for issuance of building permits within a dam inundation area.

OBJECTIVE L- 5: GEOPHYSICAL RESOURCES

Use and preserve geophysical resources, including, but not limited to, ridgelines, hillsides, and waterways, as part of the City's land use pattern.

The following policies support Objective L-5:

Policy (a): Apply the following actions to all areas of the City and its sphere of influence:

- Encourage the use of development clustering approaches, landscaping, and grading techniques which will minimize physical and visual impacts on the City's valuable hillsides.
- Continue to coordinate General Plan level resource information (i.e Land Use Parks and Recreation, and Cultural Resources Elements) to determine the level and type of resource(s) potentially within any proposed development.
- Promote the development of a flood control channel to handle projected flood waters of the San Diego and Peters Canyon Washes. Where practicable, require that the channel be a natural swale channel with grass or other natural planting as an integral part of its design as opposed to a concrete design.

- Ensure environmental impact reports for future development to consider impacts to waterways.
- Pursue waterway preservation policies while considering drainage, water conservation, storage, and flood control purposes.
- Develop small lakes around existing waterways, where possible.
- Promote the development of all lakes and reservoirs for the public use and do not allow residential development at their edge.
- Study, where possible and practicable, the appearance and ecology of certain existing natural drainage channels to determine which channels or portions of the channels, conservation measures shall be applied to. Channels or portions of channels determined to be suitable for preservation purposes may be modified
- to enhance their ecology, long term viability and maintenance. Those channels or portions of channels shall be integrated into the design of the surrounding development.
- Minimize alternations of major creek courses and bottoms.
- Allow no net loss quantity or quality of surface and subsurface water flow into the San Joaquin Marsh to occur as a result of development in Planning Area 23.

Policy (b): Apply the following actions to hillside areas within the City.

- Ensure that no significant change in the general configuration of the topography occurs where modifications of the natural topography are necessary.
- Locate buildings on sites which minimize the need for grading or removal of native plant material (except for fire trails).
- Ensure that any access roads or highways that must pass through hillside areas are the least environmentally damaging, feasible alternative which minimize the impacts to the hillside ecological and/or aesthetic characteristics.
- Ensure that any proposed development in hillside areas is the least environmentally damaging feasible alternative and minimizes flood hazard and runoff impacts to the lowlands and hillsides.
- Prepare a detailed environmental impact report for all proposed development in the hillside areas.
- Include standards or criteria for the identification and preservation of visually significant natural features (i.e., skylines, major ridgelines, prominent rock outcroppings, ridges, and oak woodlands) in future development proposals.
- Develop grading standards which reflect sensitivity to land form, habitat, watershed protection, and appropriate land use intensities.
- Encourage cluster housing techniques in hillside areas.

- Variations in minimum lot sizes may be proposed for lands when the area is designated Residential-Estate Density and it can be demonstrated that steep terrain and ridgelines will be preserved as natural, private open space.

Policy (c): Ensure development in the hillside areas retains the character and aesthetic value of the natural landform through use of the Hillside Development Ordinance.

OBJECTIVE L- 6: SOCIETAL HAZARDS

Minimize the danger to life and property from man-made hazards including, but not limited to, Aircraft Accident Potential Zones (APZs), aircraft and vehicular noise, and landfills.

The following policies support Objective L-6:

Policy (a): Continue to coordinate General Plan level hazard information (i.e., Circulation, Noise, Integrated Waste Management, and Safety Elements) to determine the level of hazardous condition(s) potentially affecting any proposed development.

Policy (b): Consider for an open space use, land which is unsuitable for development because of hazards to public health, safety, and welfare.

Policy (c): Develop a program emphasizing public safety for hazardous areas.

OBJECTIVE L- 7: SOCIETAL RESOURCES

Use and maintain societal resources, including, but not limited to, archeological historical and paleontological resources, as part of the City's land use pattern.

The following policies support Objective L-7:

Policy (a): Continue to coordinate General Plan level resource information (i.e. Land Use, , Parks and Recreation, and Cultural Resources Elements) to determine the level and type of resource(s) potentially impacted by proposed development.

Policy (b): Consider land which contains significant resource(s) for an open space use.

OBJECTIVE L- 8: PRESERVATION AREAS

Maintain and preserve large, contiguous areas which contain significant multiple hazards and resources.

The following policies support Objective L-8:

Policy (a): Consistent with Objective L-1, obtain lands through grant and/or easements for transition areas adjacent to preservation areas as shown in the Conservation and Open Space Element and Land Use Element.

Policy (b): Allow agricultural uses and other uses consistent with the preservation category in preservation areas prior to transfer to public ownership.

Policy (c): Limit agricultural uses on the frontal slopes of Quail Hill (P-11 and P-12 as shown on Figure 9 in Appendix A to cattle grazing.

Policy (d): Permit land form, vegetation, and drainage modifications pursuant to all allowable uses except in riparian vegetation areas.

Policy (e): Ensure that riparian vegetation is not significantly modified, except as necessary to provide fire protection, access roads, and flood control, drainage, water, sewer and utility facilities, and except where habitat is to be enhanced as part of a mitigation program approved by the California Department of Fish and Game.

Policy (f): Facilitate the interim preservation of The Irvine Company (TIC) land by entering Williamson Act contracts if requested by TIC. TIC may convey land or easements in preservation areas to public agencies and utilities for road, transportation, transit, drainage, flood control, water, sewer and utility purposes.

Policy (g): Participate in cooperative efforts with federal, state, and county agencies and land owners in planning and preserving regionally significant conservation and open

space areas within the City and its sphere of influence (Lomas Ridge, Bommer and Shady Canyons, and San Joaquin Marsh).

Policy (h): Explore the possibility and feasibility of joint-use or other similar concepts of developing and maintaining large regional wilderness areas/parks in preservation areas such as the Lomas Ridge and Bommer and Shady Canyon areas.

Policy (i): Maintain significant riparian areas within preservation areas as natural corridors, sources of shelter, and water for wildlife.

Policy (j): Minimize intensive human use in preservation areas which sustain rare or endangered species, including migratory bird and rare plant species.

Policy (k): Preserve and enhance the San Joaquin Marsh as a habitat resource and mitigation bank through implementation of the "San Joaquin Marsh Habitat Enhancement and Wetlands Creation Program" (See Biotic Resources Program Objective L-2, policy(d).

Policy (l): Seek the least environmentally damaging and feasible alternatives where modifications of the natural topography are necessary in preservation area.

Policy (m): Ensure that any public road, arterial highway, transportation corridor, or utility that must pass through preservation areas is the least environmentally damaging feasible alternative to the preservation area's environmental characteristics.

OBJECTIVE L- 9: RECREATION AREAS

Develop and maintain a network of recreational areas that provide a variety of recreational opportunities, and which link and integrate other conservation and open space areas into the land use fabric of the City.

The following policies support Objective L-9:

Policy (a): Obtain lands designated recreation as shown on the Conservation and Open Space Element and Land Use Element diagram, consistent with Appendix A, Objective A-2.

Policy (b): Continue to coordinate General Plan level recreational opportunities (i.e., Land Use, Circulation, and Parks and Recreation Elements) to ensure adequate and timely development of recreational areas.

Policy (c): Develop a network of open space spines as graphically depicted on the Land Use Element and Conservation and Open Space Element diagrams, and further described below:

- Conveyance of designated open space spines shown as S-1B, and S-3, on Figure 9 in Appendix A, and the minor Preservation Areas P-3, P-8, P-9, P-10, and P-13 as shown on Figure 1 in Appendix A, shall be made consistent with Appendix A, Objective A-2 in

conjunction with the recordation of final tract maps for adjoining development.

- Conveyance of Open Space Spine S-IA as shown in Figure 9 in Appendix A shall be made consistent with Appendix A, Objective A-2, in conjunction with the recordation of the final tract map for District O.
- The Peters Canyon and Hicks Canyon Open Space Spines as defined by mutual agreement between The Irvine Company and City (generally shown as S-5 and S-6 on Figure 9 in Appendix A) shall be conveyed consistent with Appendix A, Objective A-2, in conjunction with the recordation of final tract maps for adjoining development.

Policy (d): Require that an applicant submit a conceptual site plan for the treatment of open space spines as part of the zoning and concept plan request for a planning area and/or implementation district area containing the following open space spines: 1) Peters Canyon Wash corridor, 2) the San Diego Creek, 3) Planning Area 12 open space corridor, 4) Jeffrey Road Open Space Spine, 5) Northwood Railroad Right-of-Way, 6) Hicks Canyon Wash, 7) Edison easement (PA 15 and 38), 8) I-405/Edison easement, and 9) Mason Regional Park.

The conceptual site plan shall 1) encompass the entire open space spine within the planning area and/or implementation district, and will 2) establish the general relationship of the open space spine to adjacent developments. The plan shall address at a minimum the following items: a) type of trails; b) landscape elements; and c) other special design features.

The plan shall be adopted and incorporated into the appropriate development approvals (i.e. Zoning Ordinance and Concept Plan). Further policies regarding individual open space spines are listed within Appendix L.

OBJECTIVE L- 10: PERMANENT AGRICULTURE

Protect and preserve agriculture as a viable land use within areas designated agriculture on the Conservation and Open Space Element and Land Use Element diagrams.

The following policies support Objective L-10:

Policy (a): Encourage the maintenance of agriculture in those areas of the City designated for permanent agricultural use and in other areas until the time of development.

Policy (b): Preserve range lands, with high quality soils for forage production, and Class I and II soils in parcels of sufficient size to permit:

- Efficient utilization of best available technology,
- Crop diversity to minimize risk of dependency on few crops,
- Double cropping,
- High yield crops.

Policy (c): Promote the permanent use of lands not slated for industrial development or other compatible uses for agricultural purposes within the noise impact areas of MCAS El Toro.

Policy (d): Preserve land which is unsuitable for building because of hazards to public health, safety, and welfare in an open space use, such as agriculture.

Policy (e): Allow agricultural lands within flood plains and other hazardous areas.

Policy (f): Maintain agricultural usage throughout the City and its sphere of influence as much as practicable.

Policy (g): Consider creating a “working model” farm to act as a nature center for education and enjoyment of all age groups perhaps in conjunction with the preservation of the Irvine Ranch Agricultural Headquarters.

Policy (h): Encourage and support federal and state legislation proposed for the purpose of preserving agricultural lands which are compatible with the City's goals and objectives.

Policy (i): Encourage agricultural uses on an interim basis for land that is designated for development by the General Plan, using the California Land Conservation Act of 1965 (Williamson Act).

Policy (j): Permit agriculture uses within the open space spine network.

Policy (k): Resolve any phased dedication and compensating development opportunities program involving land in the agriculture land use category at the time of annexation.

OBJECTIVE L- 11: LANDFILL OVERLAY

Coordinate landfill planning efforts with the appropriate federal, state & local agencies and land owners to minimize deleterious effects on surrounding land uses.

The following policies support Objective L-11:

Policy (a): Continue to coordinate General Plan level review of landfill facilities and activities (i.e., Integrated Waste Management Element).

Policy (b): Explore the possibility with the appropriate agencies and land owners of encouraging recreational opportunities and uses as part of the landfill closure plan, at the time of the closure of the landfill.

OBJECTIVE L- 12: WATER

Coordinate land planning efforts with the appropriate federal, state & local agencies and land owners to encourage the integration of existing and future water sources (reservoirs, lakes, and drainage courses) into development.

The following policies support Objective L-12:

Policy (a): Integrate water feature opportunities and constraints through the development review process.

Policy (b): Study, where possible and practicable, the appearance and ecology of certain existing natural drainage channels to determine which channels, or portions of the channels, to which conservation measures shall be applied. Channels or portions of channels determined to be suitable for preservation purposes may be modified to enhance their ecology, long term viability and maintenance. Those channels or portions of channels shall be integrated into the design of the surrounding development.

Policy (c): Develop, where possible, small lakes around existing waterways.

Policy (d): Ensure that, where possible and practicable, the development of all lakes and reservoirs is consistent with the policies of Objective L-2, and ensure that public use is

consistent with subdivision requirements, and residential development is not allowed at their edge.

Policy (e): Include hiking, bicycling, and equestrian trails in the design of water courses whether they are left in a natural state or channelized. A study should be prepared to determine which water courses or portions thereof can be developed to include these trails.

"The long fight to save wild beauty represents democracy at its best. It requires citizens to practice the hardest of virtues - self restraint."

Edwin Way Teale

RELATED OBJECTIVE NUMBERS

The following objectives are related to the Conservation and Open Space Element:

Land Use Element - A-2, A-3
Circulation Element - B-2, B-4, B-5, B-7
Public Facilities and Services Element - G-1
Safety Element - J-1
Parks and Recreation Element - K-1
Cultural Resources Element - E-2

<u>Date</u>	<u>GPA</u>	<u>Resolution Number</u>
03/09/99	18930-GA	99-29

City of Irvine General Plan



Figure L-1

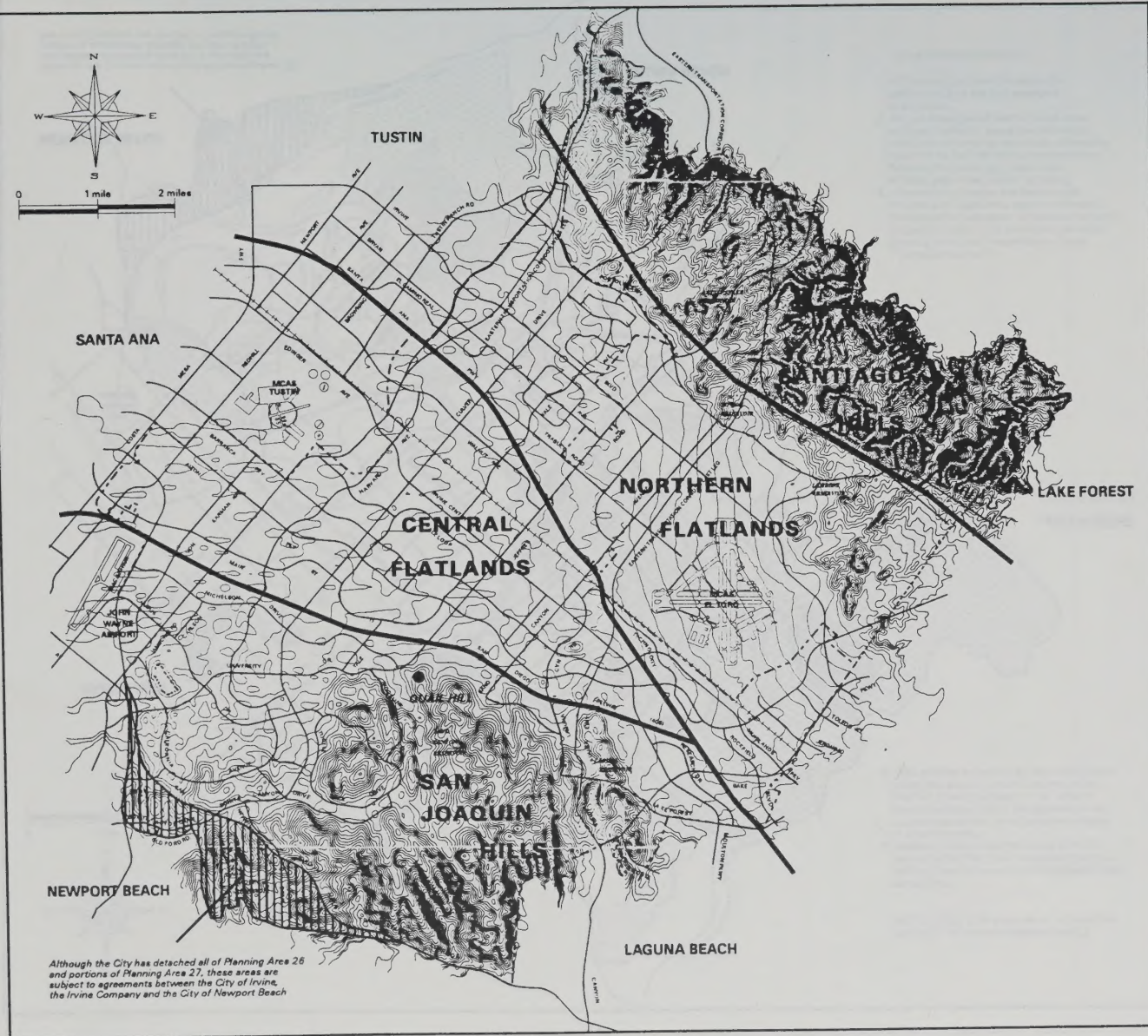
LANDFORM ZONES

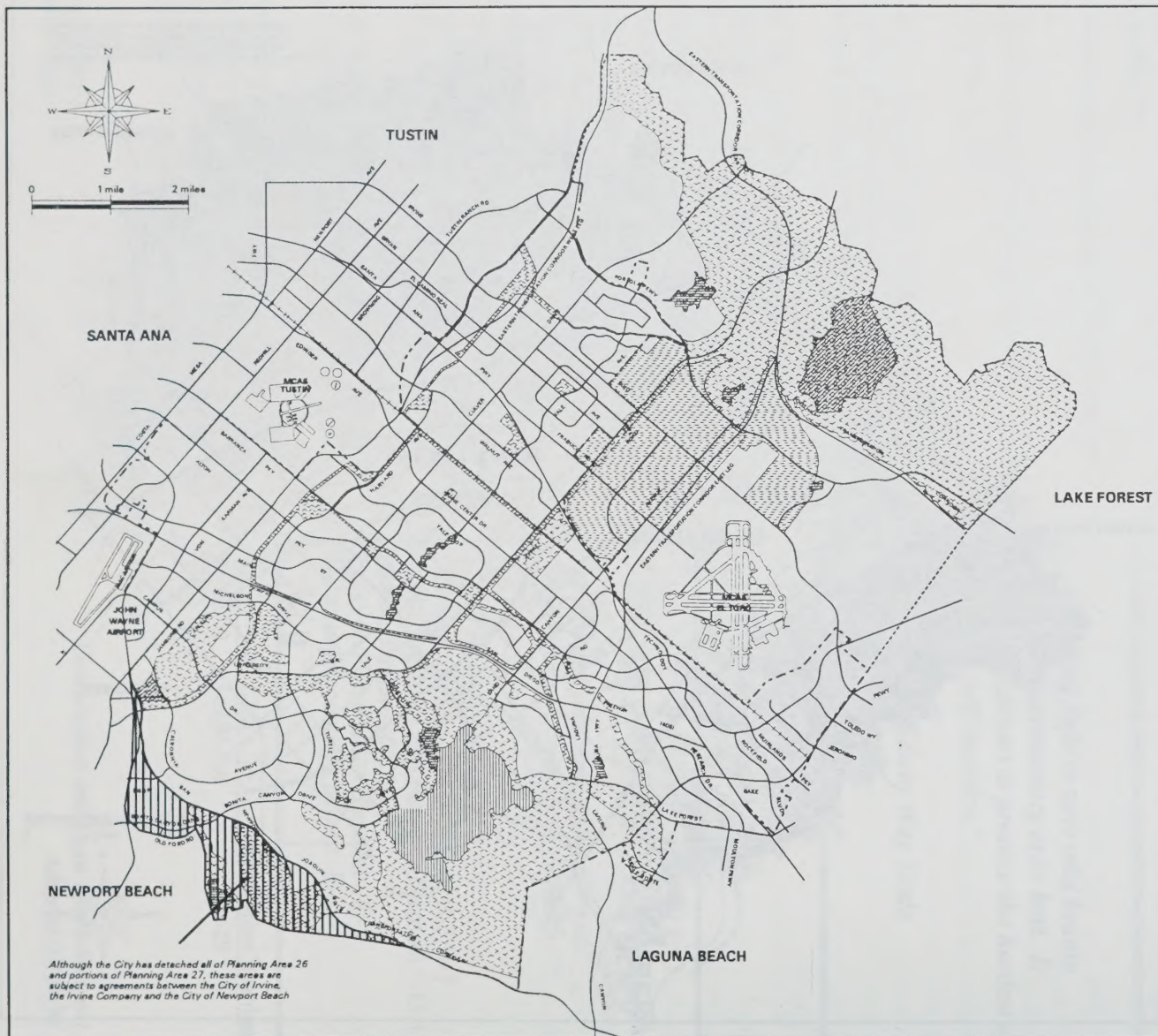
LEGEND

- City Sphere of Influence
- City Boundary
- Landform Zones Boundary

Date
Adopted: 3/9/99

City Council
Resolution: 99-29





City of Irvine General Plan



Figure L-2

CONSERVATION AND OPEN SPACE

LEGEND

- City Sphere of Influence
- City Boundary
- Preservation
- Recreation
- Water Bodies
- Agriculture
- Golf Course Overlay
- Landfill Overlay

Date
Adopted: 3/9/99

City Council
Resolution: 99-29

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Figure L-3

IMPLEMENTATION DISTRICTS

LEGEND

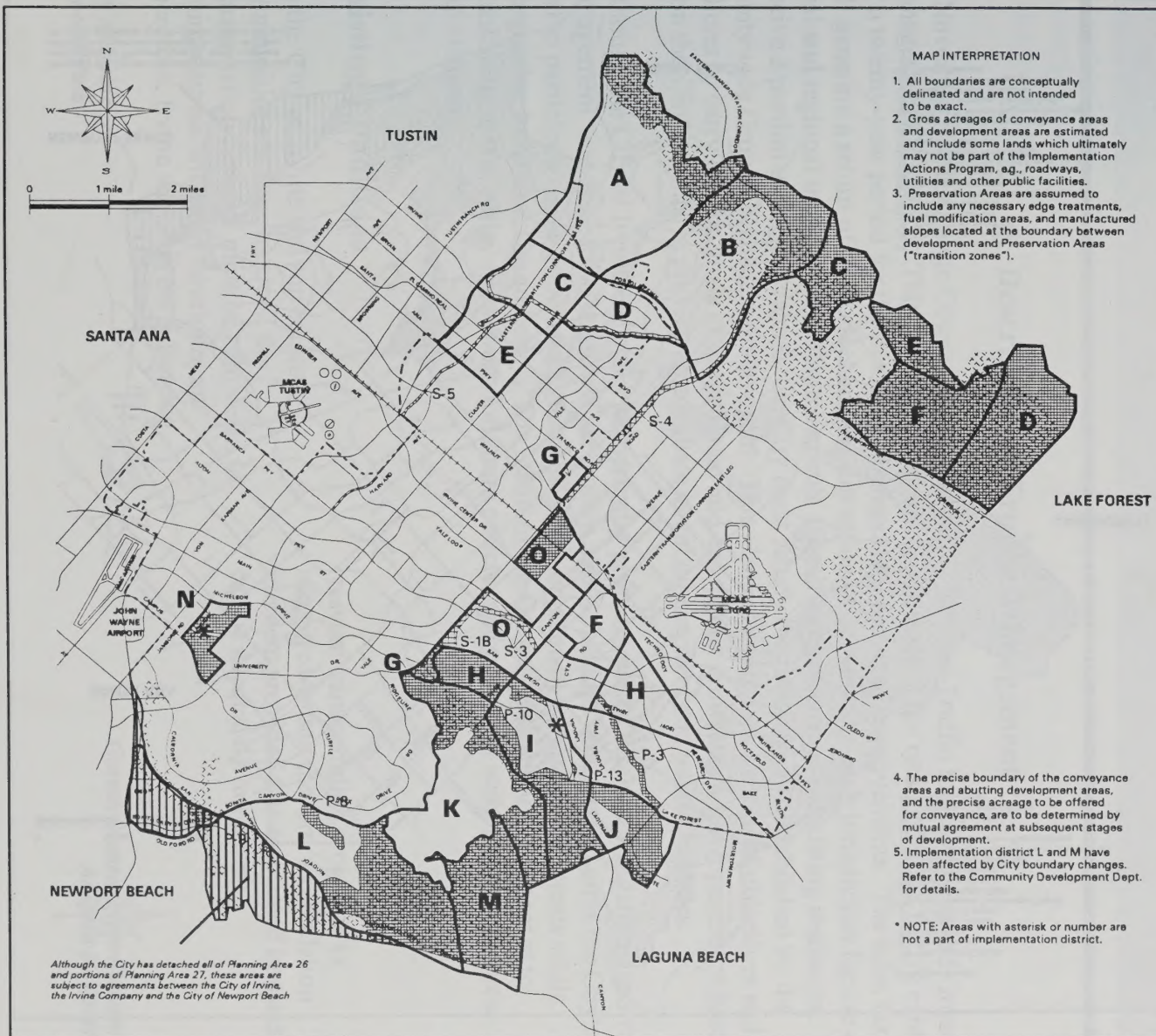
- City Sphere of Influence
- City Boundary
- Preservation Area
- Spine
- Development Area
- NCCP habitat reserve identified for future public ownership by the Facilitation Agreement (see Appendix) between the City and the land owner.

MAP INTERPRETATION

1. All boundaries are conceptually delineated and are not intended to be exact.
2. Gross acreages of conveyance areas and development areas are estimated and include some lands which ultimately may not be part of the Implementation Actions Program, e.g., roadways, utilities and other public facilities.
3. Preservation Areas are assumed to include any necessary edge treatments, fuel modification areas, and manufactured slopes located at the boundary between development and Preservation Areas ("transition zones").

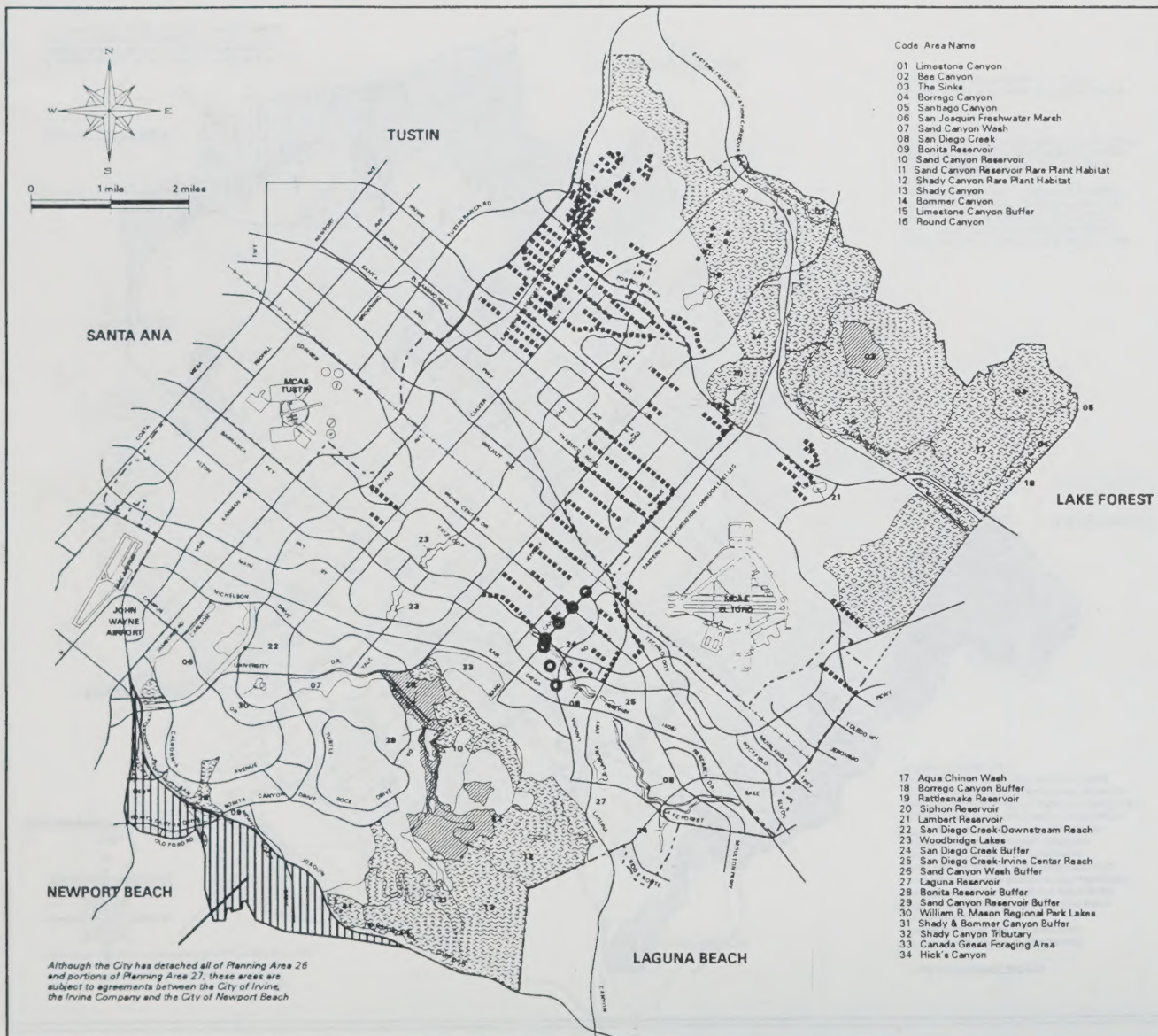
4. The precise boundary of the conveyance areas and abutting development areas, and the precise acreage to be offered for conveyance, are to be determined by mutual agreement at subsequent stages of development.
5. Implementation district L and M have been affected by City boundary changes. Refer to the Community Development Dept. for details.

* NOTE: Areas with asterisk or number are not a part of implementation district.



Date
Adopted: 3/9/99

City Council
Resolution: 99-29



City of Irvine General Plan



Figure L-4

BIOTIC RESOURCES

LEGEND

- City Sphere of Influence
- City Boundary
- Eucalyptus Windrows
- Sand Canyon Oak Trees
- [Stippled Box] NCCP Habitat Reserve
- [Hatched Box] NCCP Special Linkage

Note: Eucalyptus Windrows located within Lower Peters Canyon Planning Area 4 are subject to the Eucalyptus Windrow Maintenance and Protection Plan for Lower Peters Canyon (September 1996)

Date
Adopted: 3/9/99

City Council
Resolution: 99-29

ELEMENT M **GROWTH MANAGEMENT**

GOAL: To ensure that growth and development are integrally planned with, and phased concurrently with, the City of Irvine's ability to provide an adequate circulation system and public facilities.

Description of Growth Management

In November 1990, Orange County voters approved a Revised Traffic Improvement and Growth Management Ordinance. This ordinance imposed an increase to the retail sales tax by 1/2 cent for a twenty-year period for the funding of transportation-related improvements. The sales tax will generate a return of retail sales tax and discretionary revenues to each jurisdiction for use on local and regional transportation improvements as well as maintenance of existing roadways. To receive a portion of these revenues, the City must satisfy the requirements established by the countywide Growth Management Program. This element comprises a series of objectives and policies to carry out the goals of the program and ensure that growth and development are based upon the City's ability to provide an adequate circulation system and public facilities.

Although the City of Irvine General Plan currently provides policy discussion regarding growth management, congestion management, air quality, and a balanced land use mix, it is the City's goal to participate in on-going countywide efforts to implement traffic improvements while recognizing local land use authority. The intent of the Growth Management Element is to establish the basic policy framework for future policies and programs within a single general plan element.

Existing Conditions

As the City of Irvine and surrounding communities continue to grow, the transportation network must be completed to commensurate with new development. Therefore, Irvine supports the following

relevant transportation programs as identified within the City's Circulation Element provided that associated impacts can be adequately mitigated:

- Upgrading freeways.
- Development of transportation corridors.
- Buildout of existing and proposed major, primary, secondary, collectors, interchanges, and superstreet links.
- Advanced traffic management techniques.
- Promotion of alternate modes of travel.
- Local and regional access commensurate with development.
- Capital improvement programming based on detailed requirements for public facilities and services.
- Provision of public facilities and services linked to planned residential, commercial, and industrial development.

Trends

Approximately 50 percent of the potential development identified within the General Plan has occurred or is committed through subsequent planning approvals (i.e., zoning and subdivision). Funding levels necessary for existing and future transportation facilities must be developed and maintained to commensurate with expected growth. Since the City of Irvine is centrally located, it is important that coordination of new residential and nonresidential development is closely linked with future infrastructure improvements on both a local and countywide level.

Identification of Issues

1. **How can the City effectively participate and cooperate with surrounding jurisdictions and public agencies in interjurisdictional land use and transportation planning efforts?**
2. **How can the City integrate land use and transportation planning to ensure an adequate transit infrastructure system?**
3. **How can the City continue to effectively implement the City's pavement management program?**
4. **How can the City provide and encourage a full range of alternative modes of transportation?**
5. **How can the City promote adequate transit services and opportunities to its residents?**
6. **How can the City promote balanced growth of residential and nonresidential land uses and supporting public facilities and services?**
7. **How can the City develop a phasing program to incorporate a balance of land use building intensity, circulation capacity and public facilities to ensure that existing Citywide services are maintained?**
8. **How can the City monitor and evaluate the progress of population, employment, and development to ensure that adequate and appropriate development patterns occur with respect to the General Plan?**
9. **How can the City actively pursue the timely expenditure of state, regional and local revenue sources which is an essential factor in receiving future funds?**

Response to Issues

In response to the previously identified issues, the following objectives and policies have been formulated.

OBJECTIVE M-1: COOPERATIVE IMPLEMENTATION

Coordinate City land use and transportation planning policy and implementation with state, regional, and local growth management efforts.

The following policies support Objective M-1:

Policy (a): Cooperate with the County of Orange, the Orange County Transportation Authority (OCTA), and other local jurisdictions on the implementation of the Countywide Revised Traffic Improvement and Growth Management Ordinance (Measure M) and the development of future revisions.

Policy (b): Participate in the inter-jurisdictional planning forums for the Growth Management Areas (GMAs) and encourage cooperative implementation of traffic improvements, public facility standards, and cooperative land use planning on a countywide basis.

Policy (c): Cooperate with state, county, and local governments for planning and implementing the Circulation Element.

Policy (d): Coordinate population, housing and employment projections with the State Department of Finance, Southern California Association of Governments, the County of Orange Development Monitoring Program, school districts, and the Irvine Ranch Water District.

Policy (e): Obtain data on how the City is doing in maintaining a balanced use mix from regional and local planning sources regarding employment, housing and population projections to serve as a basis for citywide planning and development monitoring programs, including but not limited to:

- Budgeting and financial forecasting.
- CIP budget and programs.
- General Plan fiscal impact model.
- Irvine Transportation analysis model.
- Timing and sizing of public facilities.

Policy (f): Provide information to the County of Orange for development of a countywide land use summary.

OBJECTIVE M-2: INTEGRATE LAND USE AND TRANSPORTATION PLANNING

Integrate land use and transportation planning to provide adequate transportation systems which maintain the City's Traffic Level of Service standards.

The following policies support Objective M-2:

Policy (a): Ensure, for purposes of forecasting traffic demand on the regional facilities, that the City's transportation models are consistent with the subregional county model (the latest OCTAM edition), and the Southern California Association of Governments (SCAG) model through consistent input assumptions (i.e., socioeconomic data, link speeds, etc.) and consistent output.

Policy (b): Develop a circulation system based on the Land Use Element diagram and statistical tables (Figures A-1 and A-2) for the purpose of sizing the basic circulation system.³⁸

Consistent with the Circulation Element Policies and Standards, the Level of Service (LOS) Standards, identified on the following page, shall be applied to arterials and intersections in the City of Irvine or its sphere of influence (Figure B-1) and which are under the City's jurisdiction.

- LOS "E" or better shall be considered acceptable within the Irvine Business Complex (PA 36) and Irvine Center (PA 33).
- LOS "D" or better shall be considered acceptable within all other planning areas.

Policy (c): Coordinate with state, county, and local agencies for planning and construction of public utilities to minimize negative impacts on roadways within the City.³⁹

Policy (d): Work with adjacent jurisdictions, landowners, and other agencies in developing land use and circulation plans for the area northerly of the sphere of influence, noting that development in this area can have a significant impact on the City.⁴⁰

³⁸ City of Irvine General Plan Circulation Element Objective B-1, Policy (a)

³⁹ City of Irvine General Plan Circulation Element Objective B-1, Policy (g)

⁴⁰ City of Irvine General Plan Circulation Element Objective B-1, Policy (f)

Level of Service Standards

Level of Service "A": The volume/capacity ratio ranges from .0 to .60. At this LOS, traffic volumes are low and speed is not restricted by other vehicles. All signal cycles clear with no vehicles waiting through more than one original cycle. For roadway links, this LOS indicates no physical restriction on operating speeds.

Level of Service "B": The volume/capacity ratio ranges from .61 to .70. At this LOS, traffic volumes begin to be affected by other traffic. Between 1 and 10 percent of the signal cycles have one or more vehicles which wait through more than one signal/cycle during peak traffic periods. For roadway links, this LOS indicates flow with few restrictions on operating speeds.

Level of Service "C": The volume/capacity ratio ranges from .71 to .80. At this LOS, operating speeds and maneuverability are closely controlled by other traffic. Between 11 and 30 percent of the signal cycles have one or more vehicles which wait through more than one signal cycle during peak traffic periods. For roadway links, this LOS indicates stable flow, higher volume, and more restrictions on speed and land changing.

Level of Service "D": The volume/capacity ratio ranges from .81 to .90. At this LOS, traffic will operate at tolerable operating speeds, although with restricted maneuverability.

More than 30 percent of the signal cycles have one or more vehicles which wait through more than one signal cycle during peak traffic hours. For roadway links, this LOS indicates tolerable conditions, approaching unstable flow, and little freedom to maneuver.

Level of Service "E": The volume/capacity ratio ranges from .91 to 1.0. Traffic will experience restricted speeds, vehicles will frequently have to wait through two or more cycles at signalized intersections, and any additional traffic will result in breakdown of the traffic carrying ability of the system. For roadway links, this LOS indicates unstable flow, lower operating speeds than LOS D and some momentary stoppages.

Level of Service "F": Long queues at traffic, unstable flow, stoppages of long duration with traffic volumes and traffic speed can drop to zero. Traffic volumes will be less than the volume which occurs at Level of Service E. For roadway links, this LOS indicates forced flow operation at low speeds where the roadway acts as a storage area and there are many stoppages.

OBJECTIVE M-3: ROADWAY MAINTENANCE AND CAPACITY ENHANCEMENT

Continue to implement the City's pavement management program, and pursue all funding options available to meet the rehabilitation needs of the City of Irvine infrastructure and minimize the deferred maintenance of City streets. Further, future development shall contribute its "fair share" towards the improvement of the local transportation system and the regional roadway network.

The following policies support Objective M-3:

Policy (a): Prepare on an annual basis a Seven (7) Year Capital Improvement Program (CIP) for transportation system improvements including the capital projects needed to meet and maintain both Traffic Level of Service Standards. The CIP shall include proposed and approved projects as well as the financial plan for implementation.

Policy (b): Actively lobby with appropriate state commissions, committees, and legislators for funding to upgrade the Costa

Mesa, San Diego and Santa Ana Freeways, including the I-5/I-405 interchange.⁴¹

Policy (c): Properly space and interconnect traffic signals to minimize the number of traffic signals, and minimize the acceleration/deceleration that produces significantly higher vehicular emissions and noise levels.⁴²

Policy (d): Ensure that development contributes its "fair share" to the improvement of the local transportation system and the regional roadway network by constructing necessary roadway improvements through identified mitigation measures and/or payment of circulation improvement fees through established mitigation fee programs.

Policy (e): Ensure that new revenues provided by Measure M sales tax shall not be used to replace private developer funding for improvements required by subdivision map conditions for any approved project.

Policy (f): Establish through the Growth Management Area (GMA) inter-jurisdictional planning forums, a baseline fee to finance necessary multi-jurisdictional improvements. Such a fee may be a new or existing fee program within Irvine.

Policy (g): Require as a condition of new development, that specific roadway improvements needed to maintain appropriate Level of Service Standards be completed no later than five (5) years from

⁴¹City of Irvine General Plan Circulation Element Objective B-1, Policy (i)

⁴²City of Irvine General Plan Circulation Element Objective B-2, Policy (k)

the date of issuance of the first grading permit or three (3) years from the date of issuance of the first building permit or pursuant to an approved phasing program.

Policy (h): Establish a deficient intersection list comprising intersections which: 1) do not meet the Traffic Level of Service Standards for reasons that are beyond the control of the City (e.g., ramp metering effects and traffic generated outside the City's jurisdiction) or due to development project approvals (i.e., Concept Plans, Zone Changes, Master Plans, Subdivision Maps, and Conditional Use Permits) prior to the adoption date of this element; and 2) are not brought into compliance with the LOS standard in the most current Seven-Year Capital Improvement Program. Additional intersections may be added to the deficient intersection list only as a result of conditions which are beyond the control of the City.

OBJECTIVE M-4: TRANSPORTATION DEMAND MANAGEMENT

Provide and encourage the use of a full range of alternative modes of transportation including transit systems.

The following policies support Objective M-4:

Policy (a): Support programs promulgated in the Air Quality Management Plan (AQMP) and City programs such as Spectrumotion and the Trip Reduction

Facilities Ordinance which are aimed at increasing the vehicle occupancy rate and reducing vehicle trips and vehicle miles traveled (VMT). These programs include:

- Promote alternative work schedules, telecommuting, and other methods to spread and lessen work trips over a longer period of time to reduce peak period congestion.⁴³
- Encourage the designation and construction of High Occupancy Vehicle (HOV) lanes on freeways in the South Coast Air Basin.⁴⁴
- Encourage and promote the use of bicycles and walking⁴⁵ including, but not limited to, the following:
 1. Require Planning Areas to contain an internal system of trails linking schools, shopping centers, and other public facilities with residences.⁴⁶
 2. Require development to provide convenient and direct pedestrian access to surrounding land uses and transit stops.⁴⁷

⁴³ Air Quality Management Plan, AQMP Control Measure 1a "modified"

⁴⁴ Air Quality Management Plan, AQMP Control Measure 2f

⁴⁵ Air Quality Management Plan, AQMP Control Measure 1b

⁴⁶ City of Irvine General Plan Circulation Element Objective B-3, Policy (a)

⁴⁷ City of Irvine General Plan Circulation Element Objective B-3, Policy (b)

3. Design and locate land uses to encourage access by non-automotive means.⁴⁸

4. Encourage pedestrian access, through location and design, to shopping areas.⁴⁹

5. Principal trip destinations such as schools, parks, community centers, and shopping centers shall be linked to residential areas via bicycle lanes and trails.⁵⁰

6. Create a system of bicycle lanes within the street right of way to meet the needs of both the local and commuter cyclist. The lanes shall be designated for the safety of the cyclist.⁵¹

7. Provide adequate traffic signal phasing for bicycle turning and straight-through movements.⁵²

8. Continue trails through the planning areas, matching desired trip routes.⁵³

9. Support efforts related to parking management such as a Citywide Parking Management Study or other similar efforts.

Policy (b): Require the applicants of new developments to submit, at the time of tentative tract map submittal or conditional use permit or master plan review, pedestrian and bicycle circulation plans detailing such access to the subject and adjacent properties in accordance with the Land Use, Conservation and Open Space, Urban Design, and Circulation Elements of the General Plan.⁵⁴

Policy (c): Maintain and, if feasible based on demonstrated need, increase existing levels of funding allocated for transit improvements to supplement other modes of travel.

Policy (d): Prohibit parking on all thruways, parkways, and community collectors to increase the traffic capacity of these arterials.

⁴⁸ City of Irvine General Plan Circulation Element Objective D-3, Policy (c)

⁴⁹ City of Irvine General Plan Circulation Element Objective B-3, Policy (a)

⁵⁰ City of Irvine General Plan Circulation Element Objective B-4, Policy (a)-

⁵¹ City of Irvine General Plan Circulation Element Objective B-4, Policy (b)

⁵² City of Irvine General Plan Circulation Element Objective B-4, Policy (g)

⁵³ City of Irvine General Plan Circulation Element Objective B-4, Policy (d)

OBJECTIVE M-5: TRANSIT SYSTEMS AND SERVICE

***Provide adequate transit services
and opportunities.***

***The following policies support
Objective M-5:***

⁵⁴ City of Irvine General Plan Circulation Element Objective B-4, "modified" Policy (e)

Policy (a): Explore a full range of intracity transit technologies in a detailed transit study.⁵⁵

Policy (b): Adopt a master plan of potential advanced intracity transit routes.⁵⁶

Policy (c): Work with the Orange County Transportation Authority (OCTA), the development community, and other key participants in bringing additional transit opportunities to the City as well as other Orange County cities.

Policy (d): Coordinate the development of intracounty and regional transit stops with Irvine's intracity transit system.⁵⁷

Policy (e): Reserve AT&SF right of way for OCTA regional transit corridor.⁵⁸

Policy (f): Undertake in coordination with other jurisdictions detailed planning of an advanced transit network (including local and activity center systems) encompassing the City and its sphere of influence as illustrated in the City of Irvine Circulation Element Figure B-3.⁵⁹

⁵⁵ City of Irvine General Plan Circulation Element Objective B 6, Policy (e)

⁵⁶ City of Irvine General Plan Circulation Element Objective B-6 Policy (e)

⁵⁷ City of Irvine General Plan Circulation Element Objective B-7, Policy (f)

⁵⁸ City of Irvine General Plan Circulation Element objective B-7, Policy (j)

⁵⁹ City of Irvine General Plan Circulation Element Objective B-7, Policy (d)

Policy (g): Plan commercial, industrial, and residential areas so that the use of transit systems could be implemented if and where deemed viable.⁶⁰

Policy (h): Provide direct and convenient pedestrian access from the interior of planning areas to public transit stops.⁶¹

Policy (i): Continue to participate with neighboring jurisdictions on transportation issues through the combined efforts of the Orange County South Central Traffic Study.

OBJECTIVE M-6: BALANCED GROWTH

Promote balanced growth of residential and nonresidential land uses and supporting public facilities and services.

The following policies support Objective M-6:

Policy (a): Establish and implement residential and nonresidential development objectives (e.g., coordinated and complementary land use mix) every five years concurrent with revisions to the Housing Element.⁶²

⁶⁰ City of Irvine General Plan Circulation Element Objective B-7, Policy (a)

⁶¹ City of Irvine General Plan Circulation Element Objectives B-3, Policy (b)

⁶² City of Irvine General Plan Land Use Element Objective A-4, Policy (c)

Policy (b): Participate in the Southern California Association of Governments regional growth management plan and attempt to achieve consistency with regional and subregional goals and policies to achieve a balanced mix of land use including housing, employment, parks and recreation, public services and facilities, and other public amenities.⁶³

Policy (c): Participate with the County of Orange in cooperative efforts to coordinate strategies to meet housing and employment land use mix objectives.⁶⁴

Policy (d): Address the City's land use mix in conjunction with the review of any General Plan Amendment application that would increase housing and/or employment opportunities.

Policy (e): Evaluate on a periodic basis the City's public facility standards to refine levels of service and definitions of convenience to users.⁶⁵

Public and private facilities shall be initially developed according to the recommended site requirements and population levels shown on Tables G-1 and G-2.

Policy (f): Develop a more detailed set of program requirements for each public facilities system which will be used in refining locations, site sizes, and costs for

purposes of precise plans and the City's capital programming process.⁶⁶

Policy (g): Establish coordination of land uses that ensures that the City will be able to provide necessary municipal services.⁶⁷

Policy (h): Encourage the establishment and development of facilities and services consistent with policies concerning, but not limited to, police/fire facilities, libraries, parks, and flood control as identified in the Public Facilities Element.⁶⁸

Policy (i): Use the General Plan Land Use Element Tables A-1 and A-2 for sizing basic utility systems.⁶⁹

⁶³City of Irvine General Plan land Use Element Objective A-4, Policies (e & f)

⁶⁴City of Irvine General Plan Land Use Element Objective A-4 "Modified" Policy (e)

⁶⁵City of Irvine General Plan Public Facilities Element Objective G-1, Policy (d)

⁶⁶City of Irvine General Plan Public Facilities Element Objective G-1, Policies (e-i)

⁶⁷City of Irvine General Plan Land Use Element Objective A-4, Policy (a)

⁶⁸City of Irvine General Plan Public Facilities Element Objective G-1, Policies (e-h, k-n & p-t)

⁶⁹City of Irvine General Plan Land Use Element Objective A-5, Policy (a)

OBJECTIVE M-7: PHASED GROWTH

A Comprehensive Phasing Program (CPP) shall be prepared to ensure that infrastructure, such as roadways, public facilities and other services, is provided to commensurate with demand and to ensure that development is phased in a manner which quantitatively links development and infrastructure improvements. Adequate provisions, on a "fair share" basis, for roads, transit and other public facilities and services including, but not limited to, libraries, police, fire, parks and flood control, shall be identified within the CPP.

The following policies support Objective M-7:

Policy (a): To ensure that public facilities and circulation improvements are provided in a sufficient timeframe, a Comprehensive Phasing Program (CPP) shall be processed in conjunction with a developer initiated General Plan Amendment and Zone Change application for a new planning area, and refined through subsequent discretionary actions, or in conjunction with the first development plan for a prezoned undeveloped planning area, and shall address the two components noted below. The information contained in the Comprehensive Phasing Program shall be

consistent with any previously established phasing requirements.

- **Infrastructure Phasing Component (IPC):** The IPC shall ensure that infrastructure is added as development proceeds. The IPC shall correlate infrastructure improvements to land use, with specific emphasis on circulation capacity and public facility needs. The IPC shall include reasonable lead time for the design and construction of specific transportation and other public facilities improvements. As appropriate, statistical data related to population, housing, land use, and employment projections may be used to determine phasing, timing, and service level standards for public facilities.
- **Development Phasing Component (DPC):** The DPC shall establish the requirement that building and grading permits shall be approved and issued in a manner that assures implementation of required transportation and public facilities improvements. The DPC shall specify the order of improvements and the phasing of residential and nonresidential development based, at a minimum, on mitigation measures adopted in conjunction with environmental documentation and other relevant factors.

Policy (b): Irvine's Development Monitoring Program shall be used as the City's adopted guideline to assist in monitoring both infrastructure and development phasing on a yearly basis.

Policy (c): Implement the residential and nonresidential development objectives through the exercise of the City's zoning power and:

- Coordinate Land Use Element Objective A-5 and policies to maintain fiscally sound land use phasing.
- Residential and nonresidential uses shall be developed with consideration given to Circulation Element policies, where appropriate, to maintain adequate circulation capacity and infrastructure.
- Ensure that sufficient land is zoned for residential opportunities to achieve the City's quantified objectives to realize a diversity of housing types and affordability requirements, to meet the development objectives of the Housing Element, and to be compatible with non-residential objectives.

Policy (d): Ensure existing Citywide service levels associated with newly developed planning areas are not compromised over time through Comprehensive Phasing Programs that quantify existing and projected public facility service levels, and the development of appropriate mitigation to maintain public facility service levels for the City.⁷⁰

Policy (e): Public facility performance standards shall be used to evaluate the availability of and need for public facilities for any proposed development. The performance standards are established as public facility goals and shall be utilized within the Comprehensive Phasing Program. It is not necessary that the performance standards be achieved in all circumstances. The performance standards for fire, police, libraries, flood control, parks and recreation, and schools shall be established by the agency authorized by law to provide those

services at the time the development proposal is evaluated by the City.

OBJECTIVE M-8:

MONITORING

Monitor development and evaluate its status with respect to the General Plan and state, regional, and local cooperative planning efforts.

The following policies support Objective M-8:

Policy (a): Establish a Development Monitoring Program (DMP) in order to annually evaluate compliance with public facility and comprehensive phasing to maintain a balanced land use mix.

- Utilize studies/survey data from Objective A-1 and provide an annual monitoring report regarding the attainment of these objectives and criteria.
- Through the DMP, follow employment trends within the central/south Orange County area. This program should include close coordination with SCAG, South Coast Air Quality Management District, the County of Orange, neighboring communities and the development community.
- Monitor actual development for comparison to General Plan estimates regarding population and employment

⁷⁰ City of Irvine General Plan Land Use Element Objective A-5, (a)

figures, and revise estimates through General Plan Land Use Element Objective A-4.

- Ensure that monitoring includes studies/surveys of Irvine's built environment to validate General Plan estimates. The studies/surveys should quantify actual employment generation rates, land use and demographic characteristics, wage earners per household, commuting patterns and other factors that influence a coordinated and complementary land use mix.

Policy (b): Report to the City Council on a regular basis on the status of General Plan objectives, including but not limited to:

- Fiscal ratios.
- Balanced land use mix.
- Circulation levels of service.
- Phasing of land uses.
- Phased dedication of open space.
- Maintenance of General Plan database.
- Circulation phasing.

Policy (c): Monitor and analyze trends with respect to the General Plan database, and recommend policy adjustments where appropriate.⁷¹

Policy (d): Monitor development and changes to the City's adopted land use plan, and through the use of a General Plan-based fiscal impact evaluation model, modify development patterns and phasing as necessary to ensure that land use decisions do not conflict with the Policy identified in

the General Plan Land Use Element Objective A-4(a).⁷²

Policy (e): Monitor and update ITAM Trip Generation Rates as required to maintain consistency with changes in development, as well as with changes in any pertinent regional traffic model. Any changes to trip generation rates shall be analyzed to determine any effects on the Level of Service (LOS) Standards and intersection capacity standards. Such changes shall be reviewed by the Transportation and Infrastructure Commission and Planning Commission, and approved by the City Council.⁷³

OBJECTIVE M-9: MANAGEMENT OF FUNDS

Pursue the appropriate expenditure of revenue from state, regional, and local sources to enhance transportation and public facilities and to maintain the City's eligibility for future allocations in order to expedite implementation of projects funded in whole or in part by state, regional, and local sources.

The following policy supports Objective M-9:

⁷²City of Irvine General Plan Land Use Element Objective A-4, Policy (a)

⁷³City of Irvine General Plan Circulation Element B-1, Policy (c)

⁷¹City of Irvine General Plan Land Use Element Objective A-4, Policy (b)

Policy (a): Expend Revised Traffic Improvement and Growth Management Ordinance (Measure M) revenues in a timely manner within three (3) years.

RELATED OBJECTIVE NUMBERS

The following objectives are related to the Growth Management Element:

Land Use Element - A-1, A-5

Housing Element - C-7

Circulation Element B-1, B-2, B-3, B-4, B-6, B-7

Public Facilities Elements - G-1, G-2

<u>Date</u>	<u>GPA</u>	<u>Resolution Number</u>
03/09/99	18930-GA	99-29

GLOSSARY

A

Acoustics - (1) The science of sound, including the generation, transmission, and effects of sound waves, both audible and inaudible. (2) The physical qualities of a room or other enclosure (such as size, shape, amount of noise) that determine the audibility and perception of speech and music.

Active Recreation - Leisure time activities, usually of a more formal nature and performed with others, often requiring equipment and taking place at prescribed places, sites, or fields.

Activity Corridor - The east-west linear corridor, bounded by parkways, with a grouping of public and private facilities connecting Irvine Industrial Complex-East, Irvine Center, Irvine Business Complex with the residential planning areas of the flatlands.

Adequate Housing - Housing which: (1) is structurally sound, water-tight and weather-tight, with adequate cooking and plumbing facilities, heat, light and ventilation; (2) contains enough rooms to provide reasonable privacy for its occupants; and (3) is within the economic means of the households who occupy it.

Affordability - Refers to the amount paid for shelter; a household is considered to have problems with affordability if it occupies a unit at a cost greater than 30% of gross household income.

Ambient Noise Level - That level that exists at any instant, regardless of source.

Amenity - As used in the Housing Element, any service or facility which extends beyond the definition of adequate housing.

Annexation - The incorporation of a land area into the existing City with a resulting change in the boundaries of the City.

Archaeological Site - Any mound, midden, settlement, burial ground, mine, rock art, or other location containing evidence of human activities which took place prior to 1542 A.D.

Area - As used in the Land Use Element, that tract of contiguous land within one land use category.

At-grade - The crossing of two movement channels of transportation at the same elevation or level.

B

Barrier - An element which obstructs access. It may serve as a visual and/or functional obstruction.

Berm - A mound of earth, usually extending in a linear alignment, used to provide visual screening, sound attenuation, or water diversion.

Bicycle Trail - A paved pathway designed to be used primarily by bicyclists.

C

Capital Improvement - A government acquisition of real property, major construction project, or acquisition of long lasting, expensive equipment.

Capital Improvement Program (CIP) - A proposed timetable or schedule of all future capital improvements to be carried out during a specific period and listed in order of priority, together with cost estimates and the anticipated means of financing each project. Also, a listing of capital projects needed to meet, maintain, and improve a jurisdiction's adopted Traffic Level of Service and standards. The CIP shall include proposed and approved projects as well as a financial plan for implementation.

CEQA - California Environmental Quality Act

Channel - A water course with a definite bed and banks which confine and conduct the normal continuous or intermittent flow of water.

Chaparral - A dense community of needle leafed and broad leafed evergreen sclerophylus shrubs occurring on the higher mountains of Orange County. Forbs (broad leaf flowering plants) or grass understories are rare except in areas of fairly recent burn. Dominant shrubs include chamise, manzanita, ceañthus and scrub oak.

Character - An attribute, quality or property of a place, space, or object. The distinguishing character of a place, space, or object.

Circulation - An all-inclusive word which describes movement and paths of

movement. It includes pedestrian, bicycle, automobile, and aircraft movement.

Civic Center - A concentration or an assembly of governmental buildings and other semi-public functions.

Class I Bikeway - A completely separated travel way designed for the exclusive use of bicycles.

Class II Bikeway - A travelway shared with vehicles but separated by lane striping and signs.

Coastal Sage Scrub - A low but moderately dense community of drought tolerant, deciduous shrubs occurring on moderately steep to steep south and west facing slopes. Grasses and forbs are numerous within this community. Oaks are occasionally found in the coastal sage scrub; however, density is less than 20%. Dominant plants include California sagebrush and numerous species of *Eriogonum*, *Salvia*, *Baccharis* and *Encelia*.

Cogeneration - An efficient method of making use of all the available energy expended during any process generating electricity and then utilizing the waste heat.

Community Association - A homeowners association organized to own, maintain, and operate common facilities and to enhance and protect their common interests.

Community Collector - An operational designation for a medium speed highway abutting similar land uses and providing for the collection or distribution of local traffic. The primary function is to collect and distribute trips within a hierarchy of roads and, secondarily, to carry short trips between adjacent neighborhoods. A community

collector has emergency parking only and has a significant amount of parallel and perpendicular pedestrian traffic (see Standard Plans, Operational Characteristics Diagram).

Community Facility - A building or structure owned and operated by a governmental agency to provide a governmental service to the public.

Community Noise Equivalent Level (CNEL) - A scale that accounts for A-weighted acoustic energy received at a point over a 24-hour period. To reflect the increased annoyance caused by noise events during the evening and nighttime, weighing factors of 5 dBA and 10 dBA are added to the sound levels between 7:00 to 10:00 p.m. and 10:00 p.m. to 7:00 a.m., respectively.

Community Parks - Community parks serve more than one planning area. They vary in size, but are generally 20 acres and should meet the need of all age groups by providing a wide variety of land use.

Commuter Highway - An arterial highway of two through lanes and a divided or undivided median. Commuters provide for: 1) the movement of inter-planning area traffic, or 2) the movement of traffic to and from activity centers within planning areas: Two lane undivided roadways that exclusively provide for the collection or distribution of local traffic area defined as local roadways.

Comprehensive Phasing Program (CPP) - A road and public facilities improvement and financing plan that (1) responds to the level of service requirements and ensures that infrastructure such as roadways and other public facilities and services are provided commensurate with demand; and (2) ensures

that development is phased in a manner which quantitatively links residential and non-residential development to the adequate provision of roads, transit, and other public facilities and services, such as, but not limited to, libraries, police, fire, parks and flood control. The CPP shall include an Infrastructure Phasing Program and a Development Phasing Program.

Concept Plan - A planning tool used to resolve issues for an entire planning area. The concept plan represents a composite of general plan information to serve as a guide in processing future zoning applications. It includes such issues as land uses, phasing, public facilities, park, grading, and drainage.

Conditional Use - A land use which is not permitted by right, but which may be appropriate in a given zoning district under certain circumstances. The use may occur only upon approval of a conditional use permit.

Condominium - A building, or a group of buildings, in which units are owned individually, and the structure, common areas, and facilities are owned by all the owners on a proportional, undivided basis.

Conveyance Area - Preservation areas that are to be conveyed to the City as part of the Phased Dedication and Compensating Development Program (see "Two-Part Conveyance," Appendix A (Land Use).

County Median Income - The Orange County median income figure as published by the U.S. Department of Housing and Urban Development (HUD) on an annual basis. The current County of Orange median income figure, may be obtained by contacting HUD at 1-800-245-2691 or by writing to HUD Los Angeles Office, Region IX, 1615 West Olympic Boulevard, Los

Angeles, CA 90015-3801.

Cultural Facilities - Establishments such as museums, art galleries, botanical, or zoological gardens of an historic, educational, or cultural interest.

D

dBA - A quantity in decibels read from a sound level meter that is switched to the weighing network labeled "A." The A-weighing network discriminates against the lower frequencies according to a relationship approximating the sensitivity of the human hearing mechanism.

Decibel - (Abbreviated "dB") A unit of noise measurement indicating the loudness of sound. It is based on logarithmic scale, of the magnitude of a particular quantity (such as sound pressure, sound power, intensity) with respect to a standard reference value (0.0002 microbars for sound pressure and 10-12 watt for sound power).

Deficient Intersection Fund - A trust fund established to implement necessary improvements to existing intersections which do not meet the Traffic Level of Service Standard.

Deficient Intersection List - A list of intersections that: 1) do not meet the Traffic Level of Service Standards for reasons that are beyond control of the City of Irvine (e.g., ramp metering effects, traffic generated outside the City of Irvine's jurisdiction) or due to development project approvals (i.e., Concept Plans, Zone Changes, Master Plans, Subdivision Maps, and Conditional Use Permits) prior to the adoption date of this General Plan and; 2) are not brought into compliance with the Level of Service (LOS) Standard in the most current Seven-Year

Capital Improvement Program. Additional intersections may be added by the City of Irvine to the Deficient Intersection List only as a result of conditions which are beyond the control of the City of Irvine.

Density Average - A practice of averaging residential density over an entire Planning Area or portion of a Planning Area. Under this approach, any type of dwelling is permitted, from detached houses to multi-family buildings, anywhere on the site, so long as the total number of dwelling units does not exceed the maximum permitted in the Planning Area.

Department of Housing and Community Development (HCD) - The Department of the California State Government which has responsibility for housing policy and programs. HCD establishes the guidelines for preparation of local housing elements, prepares the statewide housing element, and offers technical assistance to local jurisdictions.

Department of Housing and Urban Development (HUD) - The department of the federal government which administers a variety of housing programs. These include Section 8, Section 202, and Community Development Block Grants.

Development Agreement - A development agreement specifies the duration of the agreement, the permitted uses of the property, the density or intensity of use, maximum height and size of proposed buildings, and provisions for reservation or dedication of land for public purposes. A development agreement may include conditions, terms, restrictions, and requirements for subsequent discretionary actions, provided that such conditions, terms, and requirements for subsequent

discretionary actions will not prevent development of the land for the uses and to the density or intensity of development set forth in the agreement. The city may enter into a development agreement with any person having a legal or equitable interest in real property for the development of property as provided in Government Code Section 65865.

Development Area - The total of all project areas within a given Planning Area excluding Preservation and Open Space Areas.

Development Monitoring Program - A program that, monitors fiscal ratios, jobs/housing ratios, circulation phasing, phasing of land uses, phased dedication of open space, development intensity, and the status of the General Plan.

Development Phasing Program (DPP) - A program which requires development to be approved in a manner that assures implementation of required transportation and public facilities improvements. The DPP shall specify the order of improvements and the phasing of residential and non-residential development based, at a minimum, on mitigation measures adopted in conjunction with environmental documentation and other relevant factors.

Discretionary Review Process - The evaluation of applications which requires the exercise of judgment or deliberation by an approval body pursuant to the Land Use Matrix of the Zoning Ordinance (City of Irvine Code of Ordinances Title V, Division E).

Dormitory - A building or space within a building, to be used incidental to college/university level education facilities, which provides group sleeping, living and

sanitary accommodations for persons attending the college/university who are not members of the same family. Such accommodations may include limited eating and cooking facilities.

Dwelling Unit - One or more rooms and a single kitchen, designed for occupancy by one family or household for living and sleeping purposes.

E

Environmental Impact Report (EIR) - A public disclosure document used by a governmental agency to analyze the significant environmental effects of a proposed project, to identify alternatives, and to disclose possible ways to reduce or avoid the possible environmental damage.

Expressway - A divided high flow arterial highway with three or more lanes in each direction and grade separated intersections and/or access ramps (Jamboree Road).

F

Fault - A fracture in the earth's crust forming a boundary between rock masses that have shifted. An active fault is a fault that has moved recently and which is likely to move again. An inactive fault is a fault which shows no evidence of movement in recent geologic time and no potential for movement in the relatively near future.

Freeway - An arterial and operational designation for a divided state highway with access restricted to grade-separated interchanges. Freeways provide for movement of high volumes of inter-city traffic.

Frequency - The frequency of a sound wave, expressed in cycles per second, or hertz, determines the "pitch" of the sound. High frequencies produce high-pitched sounds, and low frequencies produce low-pitched sounds.

Freshwater Marsh - Consists of emergent vegetation occurring along perennial streams interspersed occasionally with pools of open water. Dominant plants include *Typha*, *Scirpus*, *Carex*, and *Salix*. Drier meadow communities where the water table is not at the surface may support species of *Juncus*.

G

Gateway - At the urban scale, the major entrances to the City are referred to as gateways.

Goal - A general, overall, and ultimate purpose, aim, or end toward which the City will direct effort.

Government Facility - see Public Facility

Grading - Any stripping, cutting, filling, stock piling of earth or land, including the land in its cut or filled condition.

Grassland - Consists mainly of introduced grasses, most of which are annuals. Grasslands may contain species of oak or walnut; however, the tree canopy is under 10%. Grasslands in Orange County usually occur on hills and low foothills, alluvial plains and disturbed areas.

Greenbelt - An open area which may be cultivated or maintained in a natural state surrounding development or used as a buffer between land uses or to mark the edge of an urban or developed area.

Ground failure - Mudslide, landslide, liquefaction, or the seismic compaction of soils.

Groundwater - The supply of freshwater under the surface in an aquifer or soil that forms the natural reservoir for potable water.

Growth Management Areas (GMAs) - Subregions of the County of Orange established by the City-County Coordination Committee and Regional Advisory Planning Council, to promote inter-jurisdictional coordination in addressing infrastructure concerns and in implementing needed improvements.

H

Handicapped - Persons determined to have a physical impairment or mental disorder which is expected to be of long-continued or indefinite duration and is of such a nature that the person's ability to live independently could be improved by more suitable housing conditions.

Hertz - Unit of measurement of frequency, numerically equal to cycles per second.

Hierarchy - Any system of interrelated persons or things, ranked one above another in descending order of importance or size.

Historical Site - Any structure, place, or feature which is or may be significant to the post 1542 A.D. history, architecture, or culture of the nation, state, region, or community.

Household - All persons occupying a single dwelling unit.

Households, Market-Rate - Households who, as determined by the City, have the financial capability to meet their housing needs

without sacrificing other essential needs.

Households, Non-Market-Rate - Households who, as determined by the City, do not have the financial capability to meet their housing needs without sacrificing other essential needs.

Housing Unit - The place of permanent or customary and usual abode of a person, including a single-family dwelling, a single unit in a two-family dwelling, multi-family or multi-purpose dwelling, a unit of a condominium or cooperative housing project, a non-housekeeping unit, a mobile-home, or any other residential unit which either is considered to be real property under State law or cannot be moved without substantial damage or unreasonable cost.

I

IBC - Irvine Business Complex. Planning Area 36 within the City.

Identity - Unity and persistence of personality; clarity of organization within a broad group of dissimilar objects. Synonymous with individuality.

IIC-E - Irvine Industrial Complex-East. Planning Area 35 within the City.

Image - A mental representation, a conception or idea. Imaginable urban form would be where the differentiated parts of the City would be integrated into a visual whole that is coherent, meaningful, memorable, and highly pleasurable.

Impact - A word used to express the extent or severity of an environmental problem, e.g., the number of persons exposed to a given noise environment.

Implementation Actions Program - (See Phased Dedication and Compensating Development Program).

Implementation Districts - Portions of the City directly involved in the Phased Dedication and Compensating Development Program. The portions have been divided into separately lettered "Implementation Districts" containing both open space lands for ultimate conveyance to the City and corresponding development areas.

Income - Salary and/or wages, interest from assets, tips, pensions, assistance grants. Net assets include equity in real property, savings, stocks, bonds, and other forms of capital investment.

Income Level(s) - Four levels are included relating to the Orange County HUD median income:

Income I is defined as households earning 0-30% of the HUD county median income.

Income II is defined as households earning 30-50% of the HUD county median income.

Income III is defined as households earning 50-80% of the HUD county median income.

Income IV is defined as households earning 80-120% of the HUD county median income.

Infrastructure - Permanent physical improvements required to serve the population of the City, including but not limited to, circulation, utilities, and public facilities.

Infrastructure Phasing Program (IPP) - A phasing program which will ensure that infrastructure is added as development proceeds. The IPP shall correlate infrastructure improvements to land use, with specific emphasis on circulation capacity and public facility needs. The IPP shall provide reasonable lead time for the design and construction of specific transportation and other public facilities improvements.

Institutional Use - A non-profit or quasi-public use or institution such as a church, library, public or private school, hospital, or municipally owned or operated building, structure or land used for public purpose or not-for-profit housing.

Interfaith Centers - Religious facilities for worship, education, and fellowship activities which are shared by two or more denominations.

ITAM - Irvine Transportation Analysis Model.

IUSD - Irvine Unified School District.

L

Land Use - A description of how land is occupied or planned to be utilized.

Large Family - A family of 5 or more persons.

Ldn - The day/night average level established by the U.S. Environmental Protection Agency. It is similar to the CNEL descriptor; however, there is no evening weighing, only a 10 dBA weighing for the nighttime hours.

Leq - The energy equivalent level, defined as the average sound level on the basis of sound energy (or sound pressure squared). The Leq is a "dosage" type measure and is

the basis for the descriptors used in current standards such as the 24-hour CNEL used by the State of California.

Level of Service Standards - Each Level of Service Standard (LOS) describes how well traffic is moving and they are defined for intersections and roadway links:

LOS "A": The volume/capacity ratio ranges from .0 to .60. At this LOS, traffic volumes are low and speed is not restricted by other vehicles. All signal cycles clear with no vehicles waiting through more than one original cycle. For roadway links, this LOS indicates no physical restrictions on operating speeds.

LOS "B": The volume/capacity ratio ranges from .61 to .70. At this LOS, traffic volumes begin to be affected by other traffic. Between one and ten percent of the signal cycles have one or more vehicles which wait through more than one signal cycle during peak traffic periods. For roadway links, this LOS indicates flow with few restrictions on operating speeds.

LOS "C": The volume/capacity ratio ranges from .71 to .80. At this LOS, operating speeds and maneuverability are closely controlled by other traffic. Between 11 and 30 percent of the signal cycles have one or more vehicles which wait through more than one signal cycle during peak traffic periods. For roadway links, this LOS indicates stable flow, higher volume, and more restrictions on speed and lane changing.

LOS "D": The volume/capacity ratio ranges from .81 to .90. At this LOS, traffic will operate at tolerable operating speeds, although with restricted maneuverability. More than 30 percent of the signal cycles

have one or more vehicles which wait through more than one signal cycle during peak traffic hours. For roadway links, this LOS indicates tolerable conditions, approaching unstable flow, and little freedom to maneuver.

LOS "E": The volume/capacity ratio ranges from .91 to 1.0. Traffic will experience restricted speeds, vehicles will frequently have to wait through two or more cycles at signalized intersections, and any additional traffic will result in breakdown of the traffic carrying ability of the system. For roadway links, this LOS indicates unstable flow, lower operating speeds than LOS D and some momentary stoppages.

LOS "F": Long queues of traffic, unstable flow, stoppages of long duration, and traffic speed can drop to zero. Traffic volumes will be less than the volume which occurs at LOS E. For roadway links, this LOS indicates forced flow operation at low speeds where the roadway acts as storage area and there are many stoppages.

Liquefaction - A process by which water-saturated granular soils transform from a solid to a liquid state because of a sudden shock or strain.

Local Commercial Street - An operational and arterial designation for a low speed, low volume highway primarily for access to commercial and business properties. A local commercial street may have parking in the areas where sidewalks are provided (see Standard Plans, Operational Characteristics Diagram).

Local Street - An operational and arterial designation for a low speed, low volume roadway primarily for access to residential property. A local street may have parking

and a significant amount of parallel and perpendicular pedestrian traffic (see Standard Plans, Operational Characteristics Diagram).

Loudness - The judgment of intensity of a sound by a human being. Loudness depends primarily upon the sound pressure of the stimulus. Over much of the loudness range it takes about a threefold increase in sound pressure (approximately 10 dB) to produce a doubling of loudness.

M

Major Highway - A divided arterial highway of six (6), eight (8), or ten (10) through lanes. Majors provide for: 1) the movement of inter-planning area through traffic, and/or 2) the distribution of traffic to and from Freeways or Transportation Corridors.

Mass Transit - A public common carrier transportation system having established routes and schedules.

Master Plan of Arterial Highways (MPAH) - A diagram in the Circulation Element which illustrates the arterial designation of roadways. Each arterial designation defines the number of ultimate lanes planned for a given roadway. Arterial designations include: Freeway, Transportation Corridor, Expressway, Major Highway, Primary Highway, Secondary Highway, and Commuter Highway.

Master Plan of Trails - A diagram in the Circulation Element which illustrates the proposed routes for all on-street and off-street bicycle trails and riding and hiking trails throughout the City. Specific criteria for development of these trails are contained within the City's Master Plan of Equestrian and Hiking Trails and Planning and Design

Guidelines for Bicycle Facilities.

MCAS - Marine Corps Air Station.

Mitigation Measures - Means by which an adverse impact may be lessened, minimized or eliminated.

N

Natural Communities Conservation Plan/Habitat Conservation Plan - Plans designed to provide long-term protection of certain Coastal Sage Scrub and non-Coastal Sage Scrub habitats.

NCCP Facilitation Agreement - An agreement between the City and The Irvine Company regarding the Natural Communities Conservation Plan.

Needing Rehabilitation - Refers to a housing unit which, in its present state, materially endangers the health, safety, or well-being of its occupants in one or more respects, and which is economically feasible to repair.

Needing Replacement - Refers to a housing unit which, in its present state, materially endangers the health, safety, or well-being of its occupants in one or more respects, and which is not economically feasible to repair.

Neighborhood - A neighborhood is the smallest settlement unit. In Irvine the term is generally used synonymous with tract increment within Planning Areas.

Neighborhood Park - A neighborhood park is intended to serve local residents and should be within walking distance of the households it serves. Public neighborhood parks range in size from 3 to 12 acres and serve a minimum of 2,500 people each. Primary uses include passive open space,

active play areas for children. Private neighborhood parks, are placed in the interior of residential developments or condominium complexes, and exclusively serve association members. They are more intensely developed and adult oriented.

Noise - Any sound that is undesirable because it interferes with speech and hearing, or is intense enough to damage hearing, or is otherwise annoying.

Noise Sensitive Land Uses - As identified in the City's Noise Element noise sensitive land uses include residential, convalescent and rest homes, hospitals, libraries, churches and schools.

Non-regulatory Statistical Table - Table which provides historical base line information for monitoring of growth and identification of trends.

O

Oak Woodland - Consists of trees occupying greater than 30%, but not over 70%, crown cover with the understory usually consisting of grasses and forbs (broadleaf flowering plants). Woodland communities usually occur above riparian zones on cooler north facing slopes.

Off-Site Hazardous Waste Facility - Any structures, other appurtenances, and improvements on the land, and all contiguous land serving more than one (1) producer of hazardous waste and used for the treatment, transfer, storage, resource recovery, disposal, or recycling of hazardous waste, including but not limited to:

- 1) Incineration facility (i.e. rotary kiln, fluid bed, etc.);
- 2) Residual repository (receives only

residuals from hazardous waste facilities);

- 3) Stabilization/solidification facilities;
- 4) Chemical oxidation facilities;
- 5) Neutralization/precipitation facilities; or
- 6) Transfer/storage facilities.

Orange County Transportation Authority (OCTA) - The local transportation authority responsible for administering local, state and federal street, highway and public transit funds.

Open Space - Any parcel or area of land or water essentially unimproved and set aside, dedicated, designated, or reserved for public or private use or enjoyment, or for the use and enjoyment of owners and occupants of land adjoining or neighboring such open space.

Open Space Spine - An open space corridor that provides a variety of recreational opportunities, and which links and integrates other conservation and open space areas into the land use system of the City.

Operational Characteristics Diagram - A diagram which illustrates the operational designation of roadways. Each operational designation defines the operating characteristics of a roadway such as restricted access, parking prohibitions, and the types of traffic utilizing the street. Operational designations include: Freeway, Transportation Corridor, Thruway, Parkway, Community Collector, Local Commercial, and Local.

Ordinance - A municipally adopted law or regulation.

Overcrowding - Households which have 1.01 or more persons per room are considered to

have needs with respect to overcrowding.

P

Paleontological Site - Any area or location containing a trace or impression, or the remains, of plants or animals from past ages.

Park - Any public or private land set aside for aesthetic, educational, recreational, or cultural use.

Parkway - An operational designation for a moderate speed arterial highway abutting and distributing trips to a variety of land uses. This facility primarily serves short-range trips and is a significant environmental element as it borders the activity corridor. A parkway has emergency parking only and will have considerable parallel and perpendicular pedestrian movement (see Standard Plans, Operational Characteristics Diagram).

Phased Dedication and Compensating Development Program - A program that links the dedication of conservation and open space areas (Implementation Districts) to the development entitlement process. The purpose of the Program is to provide permanent protection of open space by means of public ownership.

Photovoltaic - The conversion of sunlight into a photovoltaic cell into electricity.

Pitch - A listener's perception of the frequency of a pure tone; the higher the frequency, the higher the pitch.

Planning Area - A designation used in the City of Irvine General Plan and Zoning Ordinance for land areas for planning and statistical purposes. Each Planning Area is distinct from each other as exhibited through

development intensity, land uses, open space or natural features, landscaping or architectural styles. (Previously referred to as Village.)

Policy - A collective term describing those parts of a general plan that guide action, including goals, objectives, implementing actions, and standards in both the text and diagrams.

Primary Highway - A divided arterial highway of four through lanes. Primaries provide for: 1) the movement of inter-planning area traffic; 2) the movement of traffic to and from activity centers within planning areas; and/or 3) the distribution of traffic to and from Freeways or Transportation Corridors.

Prime Agricultural Land - Land which qualifies for rating as Class I or Class II in the Soil Conservation Service land use capability (based on soil characteristics and climatic conditions).

Public Facilities - Institutional response to basic human needs, such as health, education, safety, recreation, and inspiration. Also, includes facilities and services such as, but not limited to, police, fire, libraries, parks, and flood control.

Q

Quasi-public - A use owned or operated by a non-profit, religious or charitable institution and providing educational, cultural, recreational, religious, or similar types of public programs.

R

Recreation and Activity Centers - Public, private, or quasi-public structured or unstructured open space, such as community, and regional parks, golf

courses, and cemeteries.

Recreation Facility - A place designed and equipped for the conduct of sports, leisure time activities and other customary and usual recreational activities.

Regional Parks - Large open spaces and recreational facilities provided either partially or wholly by the County of Orange. They serve the needs of persons throughout Orange County.

Residential Density - The number of dwelling units per gross acre.

Resource Survey - An on-foot reconnaissance of an area conducted for the purpose of determining the presence or absence of historical, archaeological, or paleontological resources.

Right-of-way - A strip of land acquired by reservation, dedication, forced dedication, prescription, or condemnation and intended to be occupied or occupied by a road, crosswalk, railroad, electric transmission lines, oil or gas pipeline, waterline, sanitary storm sewer, and other similar uses.

Riparian - Of, adjacent to, or living on, the bank of a river or, sometimes, of a lake, pond or waterway.

Riparian Woodland - Consists of a community of trees or shrubs with a canopy density of 30-37% occupying the fringes of the wetter riparian forests. A riparian woodland often occurs a few meters up the slopes where it merges with savannah vegetation. Riparian woodlands consisting of cottonwood species occur along major washes. Upstream dominant species are oak and sycamore.

S

SB - Senate Bill.

Scenic Corridor - The visible area outside the highway's right-of-way, generally described as "the view from the road."

Scenic Highway - A highway with a significant scenic corridor. Rural scenic highways are routes which traverse a corridor where natural scenic resources and aesthetic values may be found, such as agricultural or natural areas. Urban scenic highways are routes that traverse an urban area, with the scenic corridor offering a view of attractive and exciting urban scenes.

Secondary Highway - An undivided arterial highway of four (4) through lanes. Secondaries provide for: 1) the movement of inter-planning area traffic, and/or 2) the movement of traffic to and from activity centers within planning areas.

Senior Citizens - Persons age 62 or over.

Sensitive Receptors - Land uses considered sensitive receptors include residential uses, schools, child care centers, acute care hospitals, and long-term health care facilities. Sensitive receptors are determined based upon special factors which may include the age of the users or occupants (e.g., children or elderly), the frequency and duration of the use or occupancy, continued exposure to hazardous substances as defined by federal and state regulations, and the users' ability to evacuate a specific site in the event of a hazardous incident.

Shall - That which is obligatory or necessary.

Significant Site - A site which, regardless of size, in the opinion of an historian,

archaeologist, or paleontologist and the City, could yield new information or important verification of a previous finding, or be of significant scientific, cultural, educational, or recreational value, either now or in the future.

Spectrumotion - The Irvine Spectrum Transportation Management Association, which is responsible for preparing an annual report comparing actual trip generation to anticipated trip generation for Planning Areas 13, 31, 32, 34 and a portion of Planning Area 12.

Sphere of Influence - Unincorporated territory to be ultimately annexed and served by the City; land use is controlled by the County.

Staging Area - An area where trail users may park their vehicles and assemble gear, including horses and recreational equipment, to be used on the trail.

Statistical Area - A planning unit that contains primarily industrial commercial or agricultural land uses, it is defined by either open space elements or arterial streetscapes.

Streetscapes - Landscaped areas adjacent to public or private streets to buffer adjacent developments which may serve as a means for reducing noise impact.

Subdivision - The division of a lot, tract, or parcel of land into two or more lots, tracts, parcels or other division of land for lease, sale, or financing in accordance with the Subdivision Map Act.

Suitability/Habitability - Refers to the condition of a housing unit; households living in units requiring rehabilitation or replacement are considered to have needs with respect to suitability and/or habitability.

Survey - An on-foot reconnaissance of an area conducted for the purpose of determining the presence or absence of historical, archaeological, or paleontological resources.

Swale - An elongated or depressed landform within a landscaped area, which is designed to carry storm or other runoff.

T

Temporary Bike Trail - A Class I or Class II bike trail which will be removed or relocated at some future time.

Theme - The pervasive character of an area, development, or special place.

Thruway - An operational designation for a relatively high speed arterial highway with restricted access supplementing the freeway system and carrying intermediate range trips to or between major nonresidential land uses. A thruway has emergency parking only, and minimal pedestrian interference with traffic (see Standard Plans, Operational Characteristics Diagram).

Transition Areas - Buffer areas separating preservation areas and areas of development.

Transportation Corridor - An arterial roadway and operational designation for a multi-modal facility with restricted access having a median of sufficient width to be utilized for fixed rail or high occupancy vehicle lanes, in addition to general purpose lanes. Transportation Corridors provide for movement of inter-city traffic.

Transportation Demand Management (TDM) - Programs designed to reduce the need or demand for vehicle trips, especially during congested commute times. TDM strategies may include promoting the use of alternative

modes of transportation, reducing vehicle trips and vehicle miles traveled, and increasing vehicle occupancy rates.

Two Part Conveyance - Offers of open space conveyance as identified in Appendix A of the General Plan may be made in two parts. The first part contains to the greatest extent possible substantially all the Preservation Area and is offered for conveyance no sooner than ninety days following issuance of building permits for 75% of the development in the district, whichever first occurs (see Appendix Figure 11). However, Preservation Area lands abutting potential development areas may be excluded from the first part. The boundaries of the second part are defined and offered for conveyance upon the recordation of final maps for development abutting the area to be dedicated. Where appropriate, the transition zone may be offered for conveyance as open space easements.

U

Urban Design Structure - Framework which guides the development of the Planning Area, is comprised of the open space system, the circulation, network, and the village and district structure.

Use - Purpose for which land or a building is occupied, arranged, designed, or intended, or for which either land or building is or may be occupied or maintained.

V

Vesting Map - A map which meets the requirements of subdivision (a) and Section 66452 of the California Government Code.

View - That which is seen; a scene. Something to be looked at with attention.

Village - See "Planning Area."

W

Waste Management - An efficient system for the collection and disposal of waste products generated by households, industry, and commercial enterprises.

Windrow - A line of trees to reduce the force of a prevailing wind.

Z

Zone - A specifically delineated area or district in a municipality within which regulations and requirements uniformly govern the use, placement, spacing and size of land and buildings.

Zoning - The dividing of a municipality into districts and the establishment of regulations governing the use, placement, spacing, and size of land and buildings.

Appendices

A. Land Use Element

- Vision Italia Monte "V" Initiative - Resolution No. 11-1

B. Circulation Element

Reserved

C. Housing Element

GENERAL PLAN

APPENDICES

D. Salmon Land Use Compatibility Matrix/Initiative

E. Salmon Land Use Compatibility Matrix

F. Cultural Resources Element

Reserved

G. Noise Element

- Description of Noise

H. Police Facilities and Services Element/Reserved

I. Integrated Waste Management Element

- Description of Waste Management
- Land Use Compatibility Matrix/Initiative
- Land Use Compatibility Matrix
- Land Use Compatibility Matrix Chart

J. Energy Element

Reserved

K. Solid Waste Element

Reserved

L. Parks and Recreation Element

Reserved

M. Conservation and Open Space Element

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N. Growth Management Element

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M. Growth Management Element

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LAND USE ELEMENT

APPENDIX A

Irvine Ballot Measure "C": Initiative Resolution No. 88-1 An Initiative Resolution of the City of Irvine Directing the Amendment of the Conservation and Open Space Element and the Land Use Element of the General Plan

IMPLEMENTATION ACTION PROGRAM

This program integrates the Land Use and Conservation Open Space Elements together through the development entitlement process. The purpose of the program is to provide for the permanent protection of significant, large scale conservation and open space areas for public ownership. A summary of the Phased Dedication Program is provided in Figure 4.

a. Phased Dedication and Compensation Development Program. The policies set forth in the Program are to be considered integral components of both the Conservation and Open Space Element and the Land Use Element of the General Plan. The Program shall integrate the Land Use and Conservation and Open Space Elements together by establishing a program which links the dedication of conservation and open space areas to the development entitlement process. The purpose of the Program is to provide permanent protection of open space by means of public ownership.

With the completion of the Program described below, all major open space preservation areas (under the ownership of The Irvine Company or its successors) that are required to assure the appropriate balance of development and open space will be secured.

Other conservation and open space areas and development areas not under the ownership of The Irvine Company or its successors will, through subsequent planning processes (i.e. General Plan Amendments, Zone Changes, Concept Plans, and subdivision applications), be required to assure the appropriate balance of development and conservation and open space areas as outlined in the Land Use and Conservation and Open Space Elements and their respective goals, objectives, and implementing actions.

b. Dedication/Development Program. The portions of the City directly involved in this

dedication/development program have been divided into separately lettered 'Districts' containing both open space lands for ultimate conveyance to the City and corresponding development areas, as shown on Figure 1. The open space lands and development areas of a District are, in some cases, not contiguous. The Irvine Company or its successors in interest ("TIC") shall convey the open space lands (consisting of Preservation Areas, minor preservation areas, and Spines as depicted on Figure 1 by the letter references "P" and "5" respectively, and collectively referred to in this Implementation Actions program as "conveyance areas") within a District to the City or other appropriate public agency as reasonably approved by the City so that they may be preserved as open space in return for the completion of development on other land in the same District owned by TIC (referred to in this Implementation Actions Program as "development areas"), more particularly as shown on Figures 1 and 2, consistent with the following procedures. The City shall undertake such actions as are necessary to secure for TIC the right to develop development areas in the manner set forth herein, and pursuant to a mutually agreeable development schedule. Upon request by TIC, the City shall enter into development agreements, or approve vesting maps, for these purposes.

c. Map Interpretation. All boundaries on Figure 1 are conceptually delineated and are not intended to be exact. Gross acreages of conveyance areas and development areas stated

in Figure 2 are estimated and include some lands which ultimately may not be part of the Implementation Actions Program, e.g., roadways, utilities and other public facilities. Preservation Areas are assumed to include any necessary edge treatments, fuel modification areas, and manufactured slopes located at the boundary between development and Preservation Areas ("transition zone"). The precise boundary of the conveyance areas and abutting development areas, and the precise acreage to be offered for conveyance, are to be determined by mutual agreement at subsequent stages of development.

d. **Two-Part Conveyance.** As illustrated on Figure 3, offers of conveyance may be made in two parts. The first part shall contain, to the greatest extent possible, substantially all of the Preservation Area and shall be offered for conveyance at the time specified in Implementing Action e below, but Preservation Area lands abutting potential development areas may be excluded from the first part. The boundaries of the second part shall be defined and offered for conveyance upon the recordation of final maps for development abutting the area to be dedicated. Where appropriate, the transition zone may be offered for conveyance as open space easements.

e. **Preservation Area Conveyance.**

Concurrent with the recordation of the first final tract map within a development area of each District shown on Figure 1 (except District H), an offer of conveyance for all the conveyance areas within the District shall be recorded. Each offer will provide that it may be accepted no sooner than ninety days following issuance of building permits for 75% of the development in the District as indicated on Figure 2 ~~40~~ or completion of development in the District, whichever occurs first.

f. **Offer of Conveyance.** Each offer will be subject to non-monetary encumbrances, easements, liens, restrictions and title exceptions of record or apparent which do not prevent use of the conveyance areas consistent with the uses set forth in Conservation Open and Space Element Appendix L: Implementing Action d of Objective L-8(4) and Zoning Ordinance Section V.E-711 (Jeffrey Road Open Space Spine), Conservation Open and Space Element Appendix L: Implementing Action d of Objective L-8(3) and Zoning Ordinance Section V.E-715 (Planning Area 12 Preservation Area), and the definition of

Preservation Areas set forth earlier in this element as may be applicable to the conveyance area as identified in Figure 1, and consistent with intent of this Program, and the adjacent conveyance requirements.

Offer of Conveyance Requirements for Policy f.

1. The offer shall provide for conveyance of title by grant deed subject to land use restrictions and/or open space easements assuring that the conveyed land shall be used in perpetuity consistent with the intent of the dedication and the purposes to be served by Open Space Spines and Preservation Areas, with corresponding means of enforcement. Lands reserved for road, transportation, transit, drainage, flood control, water, sewer and utility purposes by public agencies may be excluded from the offer at TIC's discretion.

2. Mineral rights and water rights (excluding the right of surface entry) will be reserved by TIC on conveyed lands. TIC shall make full written disclosure with respect to toxic or hazardous substances which in its knowledge were stored on or deposited in the land to be dedicated. Road, transportation, transit, flood control, drainage, water, sewer, and utility easements necessary to accomplish development in adjoining areas and/or to accomplish planned facilities by public agencies and utilities will be reserved by TIC on conveyed lands. Easements will be reserved on conveyed lands if necessary to preserve or facilitate agricultural uses on adjoining Preservation Areas not yet conveyed.

3. The enhancement of habitat areas by The Irvine Company, particularly riparian habitat, shall be allowed in conveyed Preservation Areas consistent with applicable standards and procedures for purposes of environmental impact mitigation in development areas.

4. The City or other appropriate public agency shall accept the offer within two years after all other conditions to acceptance have been satisfied. However, acceptance may be delayed beyond two years by mutual agreement of the City and TIC.

g. Transferability of Dwelling Units.
Subject

to Zoning Ordinance Section V. E-718, the total number of residential dwelling units in Planning Areas 17, 18, 22, 26 and 27 may not exceed 10,600. These dwelling units may be freely transferred by TIC among the aforementioned planning areas without the need for any amendment to the City's General Plan. Any transfer which increases the number of dwelling units allowed in a Planning Area by more than 15% above the amounts designated in Figure 2 of the General Plan, or greater percentage may be subject to review as part of the subdivision process. It is the intent of this provision to allow a total of 10,600 dwelling units (except as modified in Zoning Ordinance Section V.E-718) to be constructed in these Planning Areas, to be measured cumulatively by actual permits as issued.

h. Incomplete Development. The development areas shown on Figure 1 are believed to be free of environmental constraints which would require development in such areas to be limited or which otherwise would render development infeasible. If, however, governmental or developmental standards or requirements constrain development within the development areas of a District due to extraordinary biotic, geologic or other hazard (but excluding MCAS El Toro operations), archaeologic or paleontologic constraints or limitations, the City shall transfer the development opportunities eliminated by such standards or conditions to other mutually acceptable locations.

Additionally, if governmental or developmental standards or requirements constrain development within the development areas of a District due to health or safety constraints attributable to USMCAS El Toro operations the City and The Irvine Company will seek to transfer the portion of the development opportunities reduced by such additional standards, regulations or conditions to other mutually acceptable locations. If another mutually acceptable location cannot be agreed upon, the City and the Irvine Company will meet and confer on appropriate adjustments to the Implementation Action Program.

If the total allowable development in any district is not constructed because the landowner (TIC) and or developer elects not to build to the allowable development intensity, except as provided in Zoning Ordinance Section V.E-718, the City shall not

be required to transfer that balance/difference elsewhere.

i. Additional Open Space Requirements.

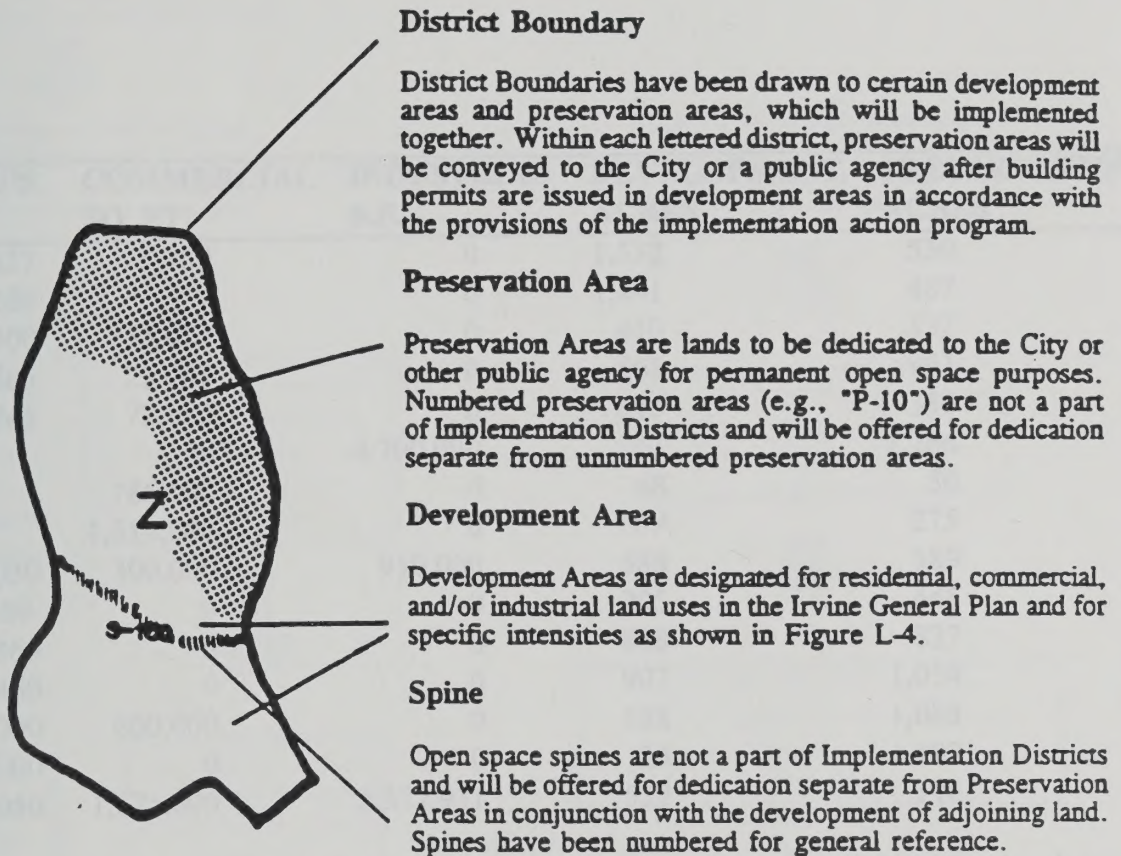
No additional open space dedication exactions may be imposed on any land owned by TIC, its successors or assignees, within the City or its Sphere of Influence (excluding unincorporated lands presently designated as agriculture in the Irvine General Plan in Planning Areas 5, 6, 8 and 9, which are not a part of this Program) except as ordinarily required on a project by project basis for compliance with provisions of the City's subdivision ordinance (for example, Quimby Act requirements, village edges and building setbacks).

However, if for reasons other than those governed by Implementing Action h above TIC, its successors or assignees request intensification of the land uses beyond the land use intensities set forth in Figure 2, the City reserves the right to require additional open space dedication exactions.

j. Open Space Improvements. No conditions will be attached to any land owned by TIC, its successors or assignees, requiring improvements to or maintenance of Preservation Areas conveyed under this program except for habitat enhancement as provided in Implementing Action f(3) above, for "transition zone" improvements as provided in Implementing Action b above, and for utilities and infrastructure necessary to serve The Irvine Company development.

No conditions will be attached to any land owned by The Irvine Company, its successors or assignees, requiring improvements to or maintenance of the Jeffrey Open Space Spine as defined in paragraph n below, except for utilities and infrastructure necessary to serve Company development and also the permanent trail construction in accordance with the City's 1985 "Guidelines For Bicycle Facilities in Irvine" (excluding grade separations solely used for trail systems) in the spine adjacent to the development. Improvements will be made to the Jeffrey Open Space Spine by the City which are compatible with and complementary to adjoining development. The Jeffrey Open Space Spine will serve as the Village Edge for the adjoining development areas, and no further Village Edge dedications or improvements will be required for adjoining development areas.

**FIGURE 1A
IMPLEMENTATION DISTRICT LEGEND**



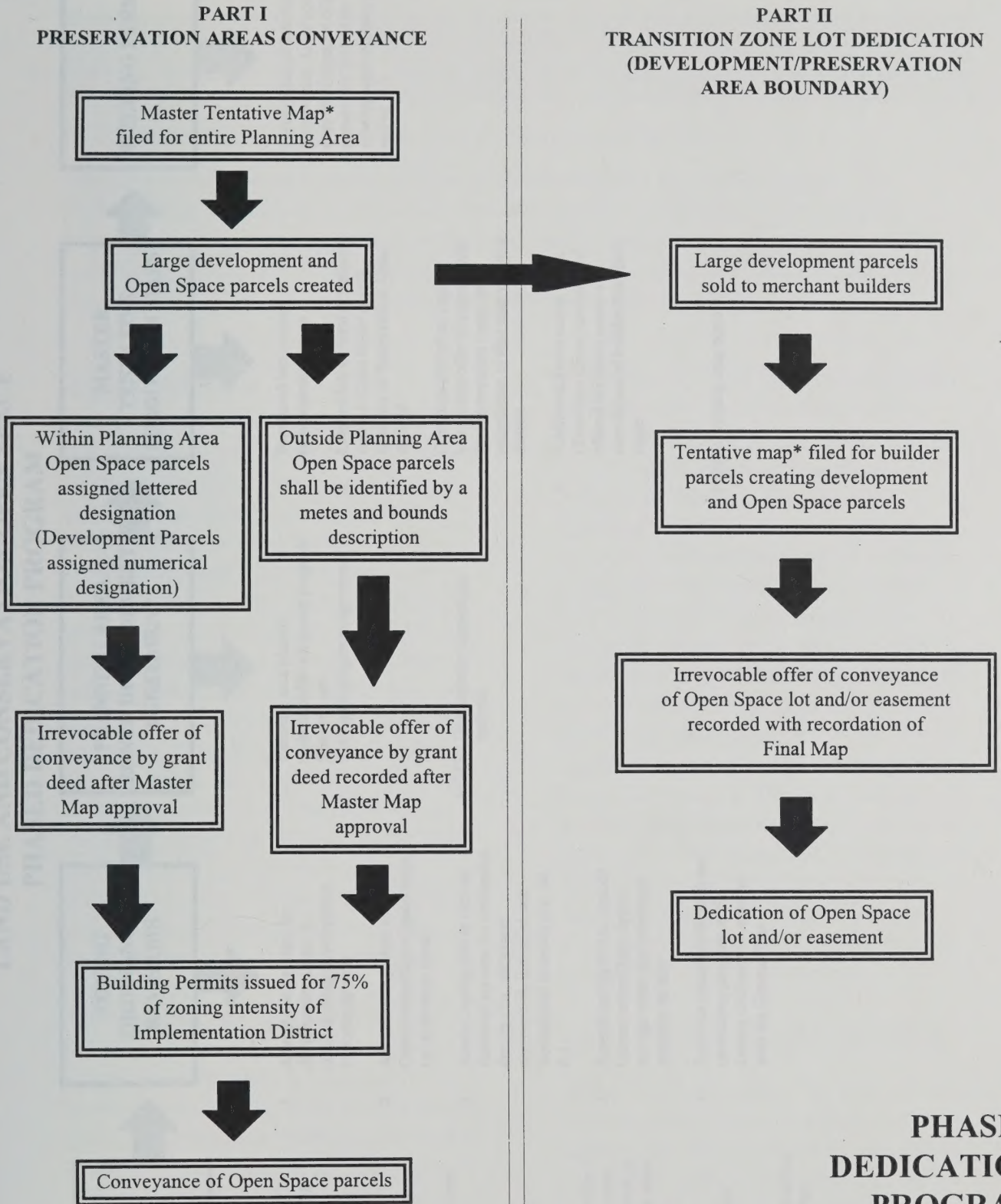
Note: Areas shown with an asterisk are not a part of the Implementation District.

FIGURE 2
IMPLEMENTATION ACTION PROGRAM
DEVELOPMENT INTENSITY AND DEDICATION AREA
BY DISTRICT

DISTRICT	DU'S	COMMERCIAL SQ. FT.	INDUSTRIAL S.F.	DEVELOPMENT ACRES	PRESERVATION ACRES ¹
A	4,627	23,769	0	1,532	530
B	3,286	0	0	1,441	487
C	3,900	255,077	0	410	532
D	2,885	23,769	0	551	961
E	4,745	72,680	0	615	350
F	0	0	4,700,000	361	1,266
G	0	786,000	0	68	50
H	0	1,514,000	0	N/A	275
I ²	2,030	300,000	910,000	588	589
J ²	750	0	0	205	445
K ²	2,360	0	0	888	837
L ²	3,460	0	0	907	1,054
M ³	2,000	600,000	0	588	1,088
N	1,000	0	0	25	192
O	4,050	1,575,000	2,372,931	552	176

1. All acres are estimates of gross acres and are subject to refinement. Acreage will be refined and allocated to specific land use categories in subsequent planning processes. Preservation Areas on this exhibit do not include Spines and Minor Preservation Areas as described in Appendix A, Implementation Action Program (b).
2. The distribution of dwelling units among these planning areas may be adjusted according to provisions of Appendix A, Implementation Action Program (h).
3. These figures may be adjusted according to the provisions of the Zoning Ordinance Development Standards for Planning Area 26.

FIGURE 3
TWO-PART SUBDIVISION PROCESS

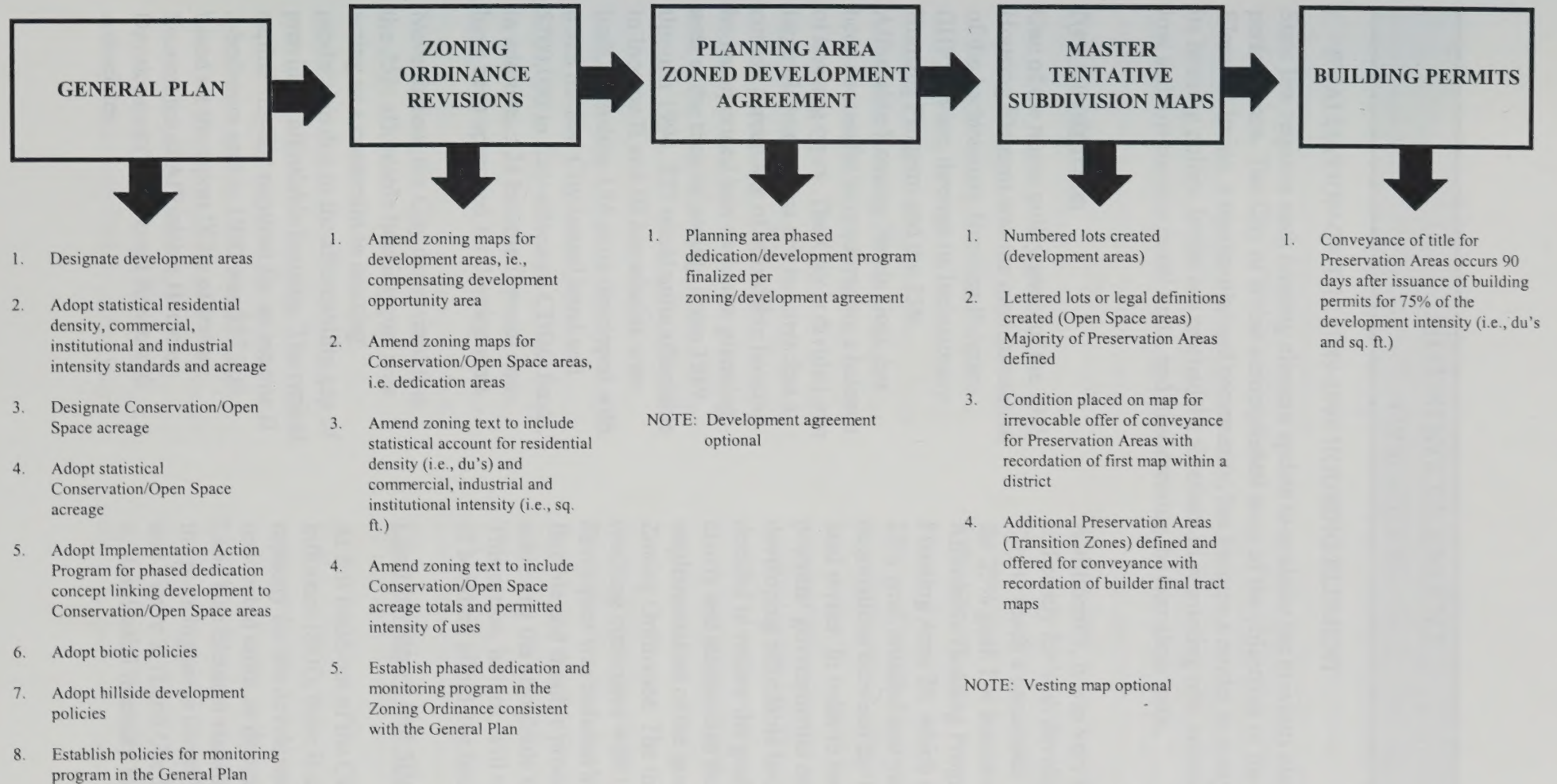


*NOTE: Vesting map optional

**PHASED
DEDICATION
PROGRAM**

FIGURE 4

LAND USE AND CONSERVATION/OPEN SPACE PHASED DEDICATION PROGRAM



HOUSING ELEMENT

APPENDIX C

I. EVALUATION OF THE 1989-1994 HOUSING ELEMENT

State law requires each housing element update to evaluate the previous element for performance. The City of Irvine accomplished most of the objectives of the Housing Element. Irvine, a master-planned community, has become a model to many other cities for its housing policy. Irvine has reached the forefront in promoting new construction of very low and low income rental units, and in addressing the homeless issue.

New Construction

One of the major policy goals of the 1989 Housing Element was the implementation of the Inclusionary Housing Program (IHP). Irvine, through its Inclusionary Housing Program and the 25% Affordable Housing Needs Goal, has been successful in encouraging a balance of housing types. The City is divided into large planning areas and requires that a certain percentage of affordable housing be incorporated into each new planning area at the time of zoning. From 1989 through 1994, 227 rental units affordable to Income II and III households were built, including 174 units developed with a \$28 million City-issued bond and \$700,000 in City-allocated CDBG funds. In addition, 524 Income II rental units have been approved for development.

Nevertheless, the City determined that the 25% affordable housing goal was acting as a constraint to housing production due to the affordability gap of providing affordable housing. The typical capital subsidy required for an income II 2-bedroom unit in 1990 was \$57,200 based on the report "City of Irvine: Economics of Affordable Housing Development" by David Rosen and Associates.

Additionally, it was very time consuming and costly for both developers and the City to reach a consensus on achieving the 25% goal. For instance, the Affordable Housing Program for Planning Area 38, which included the 25% goal, entailed one year of constant negotiations between the City and the land owner. In order to remove this potential governmental constraint for developing affordable housing, the City decided to reduce the goal to 15%, and clarify and standardize the implementation of the goal through the Zoning Ordinance. The time and cost of reaching consensus with land owners and developers was reduced by establishing a flexible and feasible process for achieving the affordable housing goal. This action, in turn, will reduce the cost of building affordable housing.

Land Inventory and Site Availability

At full build-out of the City and sphere of influence (SOI), there is a potential capacity for the development of 115,414 residential units, as designated in the Land Use Element statistical tables. Of the planning areas identified in Figure 1 and Figure 2, (Land Use Element Table 6, Residential Intensity Regulatory

Standards by Planning Area and Table 12, Non-Regulatory Residential Acreage by Planning Area) several may be zoned within the next five years. According to the City's 1993 Development Monitoring Report, there are 1,133 acres of land zoned for up to 14,940 dwelling units. Therefore, the potential for residential development could be higher than the RHNA goal of 13,188 units. Of these potential 14,940 units, 8,205 would be under the revised 15% Affordable Housing Needs Goal (e.g. Planning Area 5 is being processed through the County of Orange and Planning Area 38 is under the previous 25% goal). This would potentially result in a combination of 410 income I and II rental units, 410 Income III rental or ownership units, and 410 income IV ownership units, thereby partially achieving the RHNA goal as listed in the draft Housing Element (page C-2). Between 1989 and 1994, of the 2,412 dwelling units produced within Irvine, 227 units were built as affordable housing.

As of 1994, Irvine has General Plan capacity for approximately 73,193 additional units to be built including within the City's SOI [1115,414 d.u. (per General Plan build out) - 42,221 d.u. existing in 1990 (per City 1993 Development Monitoring Report)] which would enable the City to respond to an updated RHNA goal that is anticipated for 1996.

The City's Land Use Element sets an objective to develop a program to coordinate residential and non-residential development on a five-year basis, to encourage a better jobs/housing balance. The Housing Element sets an objective to encourage the maximum number of units

allowable under General Plan designations for planning areas to be built. Given the availability of zoned and vacant potential residential sites in the City, it is not necessary to change non-residential uses to residential uses, to supply adequate sites.

Zoning: Irvine has made it a practice to approve zoning, initiated by the applicant, on a planning area scale which allows review of a development plan for a large area. This process accommodates comprehensive coordination of land uses and cost effectiveness. Most of the vacant land within the undeveloped planning areas of the City is currently zoned as development reserve to preserve its use for agricultural purposes. Zoning is not considered a barrier to the availability of residential land for development. The City has accommodated all affordable housing projects that have requested approvals; however, since Irvine does not have a redevelopment or public housing agency, the City cannot build affordable housing by itself.

As part of the Comprehensive Update of Irvine's General Plan, inclusive of the Housing Element, the City eliminated the minimum intensity standards for the residential development density ranges in its draft Land Use Element. The elimination of minimum intensity standards will not curtail the development of affordable housing. The City's 15% housing goal, the provision of subsidies, and the master plan and tentative tract map review process will ensure that higher density affordable housing is provided in the appropriate land use zones. The inclusion of the 1989 Land Use Element Table 6, Residential Intensity Regulatory Standards by

Planning Area and Table 12, Non-Regulatory Residential Acreage by Planning Area (Figures 1 and 2), in the Housing Element Appendix documents that sufficient land was zoned for affordable housing development to meet the City's RHNA goal.

Residential Development Potential:

According to the City of Irvine's 1993 - 1999 Strategic Business Plan, the City projects a residential building rate of approximately 1,100 units per year from 1994 to 2000. Given this rate of development, it would take over 30 years to build out all areas designated for residential use in the General Plan.

Summary: Over the next 5 years (1995-2000), the City expects the construction of at least 5,946 dwelling units.

Assistance to Homeless Persons

Another accomplishment of the 1989 Housing Element is the City's homeless program. The goal of the expansion of transitional shelter for low and very low income households was accomplished through the securing of \$430,690 from the Department of Housing and Urban Development (HUD), matched by Community Development Block Grant (CDBG) funds, private donations from The Irvine Company, and other private monies.

The five year program administered by Irvine Temporary Housing will continue to utilize an apartment setting with extensive supportive services to enable at least 80 people a year a 90-day stay. This is in addition to the existing program already assisting over 80 people a year. In conformance with State law, the City

continues to seek other solutions for homeless sites such as additional hotel vouchers from local hotels, and use of City owned sites or nearby University of California, Irvine land.

Transitional and Emergency Housing

Sites: Sites for transitional and emergency housing are available throughout the City. New construction of transitional and emergency housing is possible in all residential areas if the density standards are met. For instance, the City has allocated CDBG funds to a non-profit housing agency to develop a transitional housing facility for abused women.

Existing housing can also be used for transitional and emergency housing. Currently, Irvine Temporary Housing leases 6 apartments and owns six condominiums in Irvine for 90-day stays.

Use of Community Development Block Grant (CDBG) Funds

From 1989 to the present, Community Development Block Grant (CDBG) monies have been used in creative ways to further Housing Element objectives. For example, the City allocated \$700,000 in CDBG funds to a non-profit housing developer to build a 382 rental unit project of which 174 units are affordable to Income II and m households. The non-profit developer, BRIDGE Housing Corporation, in partnership with The Irvine Company, was able to leverage the CDBG funds to attain other funding sources such as a \$28 million bond issue by the City, a \$1.3 million low-interest loan from the Orange County Housing Authority, and \$6 million tax credit allocation.

In addition, the City allocated \$406,000 in CDBG funds for the development of a 192 unit single room occupancy (SRO) hotel in Irvine for very low-income individuals, as well as allocated \$512,000 in CDBG funds for the development of a 116 unit rental project for very low-income senior citizens. Both projects are

expected to be constructed by 1995.

The City of Irvine continues to fulfill its objective for equal and accessible housing through a contract with the Orange County Fair Housing Council.

II. CONSERVATION AND PRESERVATION OF AFFORDABLE HOUSING STOCK

The City of Irvine housing stock provides a range of choices for all income groups. Maintaining the quality and affordability of the housing stock is vital to continuing to meet housing needs.

Conservation of Affordable Units:

Conservation of the affordable housing includes maintaining the quality of the housing (e.g., conservation of the physical condition). Due to the relatively young age of Irvine's housing stock, no rehabilitation programs are required at this time, but they may be needed in the next 5 - 10 years. The City continues to monitor Building Code Compliance by inspection to assess potential rehabilitation needs.

Preservation of Affordable Units:

Preservation includes maintaining the affordability of housing, particularly low-cost housing. For affordable housing units established pursuant to Housing Element goals, this is achieved primarily through an independent non-profit agency who reviews applications for inclusionary or affordable housing units, assuring that each unit is rented to the income group designated. Also, the various funding programs used in Irvine to develop low-cost rental housing define the term of affordability and preserve affordable housing for 10 to 30 years through agreements with the owner. Tax-exempt bond financed units in Irvine have an additional two-year transition period over Federal 10-year requirements, to allow a slower conversion to market rate. This allows time for the City, renters and the owner to find a way to keep the units

affordable for a longer term and avoid immediate rent increases.

The City is concerned about the future loss of affordable units through the expiration of programs providing subsidy payments or insured mortgages (Figure 3). During the five-year Housing Element period of July 1, 1994, through July 1, 1999, there are 989 affordable units, funded through public assistance and/or conventional financing, that are at risk of converting to market rate housing. These units comprise approximately 1/3 of the existing affordable rental housing stock.

Cost of Conservation of Affordability:

Construction of new affordable units to replace existing affordable units as they convert to market rate will be more costly up front than renewing subsidies. Construction of income II units require subsidies of approximately \$47,000 to \$60,000 per unit, and Income III units require subsidies of \$7,900 to \$21,000 per unit. In comparison, renewal of subsidies, such as refunding bond issues, has only a minimal administrative cost to the issuing agency. For those units funded conventionally, sources of subsidy for the owners or rent assistance for tenant will have to be identified. Rent assistance for one year for an income II unit would range from \$4,000 to \$6,700 and for an income III unit from \$200 to \$2,000.

With respect to Woodbridge Villas and Windwood Knoll Apartments (financed through the HUD Section 221(d)(4) program), where the term of affordability expired or is scheduled to expire in 1994 and 1995 respectively, the cost to extend the term of affordability for one year would be \$55,860 for Woodbridge Villas, and \$47,736 for Windwood Knoll. These preservation of these two projects costs are beyond the City's funding resources. Moreover, the City's CHAS has prioritized the use of its scarce funding resources, such as CDBG funds, for the development of affordable housing. As such, there are no funds currently allocated to extend the term of affordability for these two apartment projects.

Nevertheless, the draft Housing Element does recognize the importance of preserving all of the affordable and bond units in Irvine. The Menu Option in the draft Housing Element (page C-8) offers housing credits in exchange for extending the term of affordability of existing lower income units. The City has demonstrated its willingness to work with the owners of affordable units by agreeing to participate in the refinancing of 254 multi-family bond units in 1990.

In its endeavor to preserve affordable units, the City will focus its efforts on very low-income (Income U) at-risk units, rather than low-income units (income III) which are at rent levels comparable to market rate rents (see graph in draft Housing Element, page C-6). The 60 at-risk units at Woodbridge Villas, are income III units. Therefore, the City has taken no action on these specific units.

The following identifies some of the resources potentially available to the City for the conservation of affordable units.

Resources for Preserving Affordable Units: Many of the resources listed here are also financial incentives for new affordable housing units. Thus, efforts to preserve and efforts to increase the affordable housing stock will be competing for some of the same resources. These resources include:

- \$858,000 in FY 1993-94 Community Development Block Grant (CDBG) Funds (funds already allocated)
- \$148,000 Multi-family Housing Fund (annual fees derived from City-issued 1983 and 1992 housing bonds)
- Low-income Housing Tax Credit (contingent on non-profit housing project receiving authorization from the state)
- \$531,000 In-lieu Fee funds (funds will be available contingent upon City establishing a Housing Trust Fund Program)
- Orange County Housing Authority Operating Reserves (contingent on non-profit housing project receiving funding from OCHA)
- State and Federal Programs (i.e. Home, Section 202, Section rental subsidies, and state Multifamily bond program)
- Conventional financing through lenders

None of the 1,049 affordable units have been provided under the HUD Section 221(d)3 or Section 236 programs, and therefore none are eligible for incentives currently available per the Low Income Housing Preservation and Resident Homeownership Act of 1990 to extend the affordability.

Cost of Preservation of Affordability:

Preservation of the affordability of these units could be achieved through: 1) payment of the rent differential between the market rent and the affordable rent (i.e. a rent subsidy to tenants); 2) refinancing mortgages to achieve a lower interest rate and therefore a lower monthly debt and rents; 3) assisting in the purchase of the project by a buyer committed to maintaining the affordable units (i.e. a non-profit organization); 4) assisting individual buyers, who meet the income requirements, in purchasing a unit if rental projects are converted to ownership units. However, as previously stated, the City has prioritized the allocation of its resources for the development of affordable housing.

Non-Profit Housing Organizations: Non-profit organizations offer additional resources for the preservation of affordable housing units. Nonprofit

organizations can issue tax-exempt bonds. They are also eligible to receive CDBG funds and other special housing funds. As such, non-profit organizations are in a position to initiate or support affordable housing projects.

Orange County Community Housing Corporation (OCCHC), a county-wide non-profit organization, has completed a number of new construction affordable housing projects throughout the county. In addition to new construction, OCCHC carries out its own property management. Irvine Housing Opportunities (IHO) and Jamboree Housing Corporation (JHC) are smaller organizations now looking to expand their operations and capabilities. IHO developed and currently manages 150 units of senior housing, funded under the HUD Section 202 program. JHC is newer and in the process of undertaking its first projects such as its first-time homebuyer program. Both organizations are interested in assisting in efforts to preserve and/or replace at risk units. Some technical assistance may be necessary to help these non-profit organizations increase development capabilities and property management capacity.

FIGURE 3
INVENTORY OF AFFORDABLE HOUSING UNITS
AT RISK OF CONVERSION FROM JULY 1, 1989 THROUGH JULY 1, 1999

Project No.	Project /Name Address	Owner	Total Units	Affordable Units (Total/at risk)	Tenant Type	Public Assistance	Date of conversion
1	Woodbridge Villas 10 Thunder Run	TIC	258	120/60	Family	HUD, Sect. 221(d)(4)	7/94
2	Windwood Knoll 2 Flagstone	TIC	248	120/60	Family	HUD, Sect. 221(d)(4)	12/95
3	Woodbridge Cross Creek 22 Creek Rd.	TIC	136	44/44	Family	Bond	12/95
4	Stanford Court 400 Stanford	TIC	320	96/96	Family	Bond	12/95
5	Harvard Court 146 Berkeley	TIC	112	33/33	Family	Bond	5/96
6	Northwood Place 1300 Hayes	TIC	604	186/186	Family	Bond	10/96
7	San Marino Villas 403 San Marino	TIC	200	59/59	Family	Bond	10/96
8	Cornell Court 146 Berkeley	TIC	109	100/78	Family	Bond	10/96
9	San Leon Villas 1 San Leon	TIC	248	72/72	Family	Bond	3/97
10	San Remo Villas 1011 San Remo	TIC	248	76/38	Family	Bond	1/97
11	Berkeley Court 307 Berkeley	TIC	152	32/10	Family	Bond	2/98
12	Dartmouth Court 1100 Stanford	TIC	294	85/85	Family	Bond	10/98
13	San Marco Villas	TIC	426	361/228	Family	Bond	8/98

TOTAL AFFORDABLE UNITS AT RISK, 1989-1999: 1,049

Sources: Irvine Affordable Housing Inventory; City permits records; "Inventory of Federally Subsidized Low Income Rental Units at Risk of Conversion"; California Housing Partnership Corporation; rent schedules from The Irvine Company; project owners; bond administrators; and monitoring agents.

SEISMIC LAND USE COMPATIBILITY MATRIX INSTRUCTIONS

The Seismic Land Use Compatibility Matrix reflects the relative sensitivity of each land use to potential hazards, however it does not imply a specific level of risk. The matrix can be used to provide decision makers with relative risk assessments so that uses and areas with the highest sensitivity are identified. There are few areas in the City that should be developed by seismic criteria exclusively. Rather it is suggested that the matrix be used to judge the level of detail of information that should be provided prior to development approval.

SEISMIC LAND USE COMPATIBILITY

IRVINE STUDY AREA

	SEISMIC RESPONSE AREA				
	1	2	3	4	5
Low Density Residential	5	3	4	4	4
High Density Residential	8	6	7	7	8
Commercial Center	9	7	8	7	8
Industrial Buildings	7	4	6	5	7
Public Facilities	9	8	9	8	9
Airport/Air Station	7	5	6	6	7
Flood Control	1	1	1	1	1
Open Space	1	1	1	1	1

1 = Most Compatible

10 = Least Compatible

SOURCE: Wilsey & Ham, base information provided by Woodward, McNeil & Associates

NOISE ELEMENT

Appendix F

DESCRIPTION OF NOISE

Characteristics of Noise:

Sound is the result of a sound source inducing vibration in the air. Sound has three variables: amplitude/loudness, frequency/pitch, and pattern of time.

Amplitude/loudness is the sound pressure measured in decibels (dB). Decibels are based on a logarithmic scale because the range of sound intensities is so great that it is convenient to compress the scale to encompass all the sounds needed to be measured.

Frequency/pitch is the rate at which a sound source vibrates or makes the air vibrate. The means by which it is measured is known as Hertz (Hz), which is the number of cycles per second.

Pattern of time and level produces different sounds such as continuous (long periods at a constant level, e.g., waterfall); intermittent (short periods, e.g., aircraft takeoff); impulse (extremely short span of time, e.g., band clap); fluctuation (variations in level over time, e.g., traffic sounds at a busy intersection).

The time when sound occurs contributes significantly to the objectionable nature of sound. Sound levels that normally occur during daylight hours and are not considered objectionable, may be excessive when they occur at night, a period when most people demand quiet.

Measuring Sound:

Individual sounds can be expressed in terms of A-weighted decibels (dBA). The A-weighted scale is a frequency dependent rating scale. It de-emphasizes the very low and very high frequency components, thus placing greater emphasis on sound frequency within the sensitivity range of the human ear. Everyday sounds normally range from 30 dBA (very quiet) to 100 dBA (very loud). The average level of conversation ranges from 60 to 80 dBA. Sound becomes physically painful at 120 dBA.

The Leq is the energy average of a fluctuating noise source over a specified period of time. The energy average (Lea) of each hour of the day, weighted for the more sensitive time periods within 24 hours, describes the Community Noise Equivalent Level (CNEL) or Day Night Average (Ldn).

Mitigation of Noise:

The transmittal of sound involves three statistical components: source, transmission path, and receiver. Noise can be mitigated by treatment of any of the three components such as: The effect of noise on the community can be achieved by reducing the noise produced by the source, increasing the distance between the source and the receiver (path), and placing a barrier between the noise source and receiver, and insulating the receiver. The following are examples of these mitigation measures:

Fixed noise sources: A doubling of distance (transmission path) will produce a 6 dBA reduction in sound level.

Transportation sources: A doubling of distance (transmission path) will produce a 4.5 dBA reduction in sound level. A row of two-story buildings will provide a reduction of about 10 dBA.

INTEGRATED WASTE MANAGEMENT ELEMENT

APPENDIX H

DESCRIPTION OF WASTE MANAGEMENT

Solid wastes can be disposed of in the following ways:

1. Sanitary landfill: Unsorted solid wastes are placed, usually in a canyon, and then covered daily with soil to prevent odors from escaping or water from saturating the filled material.
2. Recycling: Reusable solid wastes, including but not limited to newspaper, glass, or metals can be removed from the waste stream and disposed of at recycling centers for their eventual reuse.
3. Waste-to-energy facilities: Refuse are disposed of at a waste-to-energy facility where waste is incinerated to produce heat for either steam production or electrical generation.
4. Composting: Biodegradable wastes such as tree trimmings, grass, or kitchen wastes can be composted to produce a humus-like product. Humus can be used either commercially for fertilizer or for land reclamation projects or for the final cover at landfills.

Sludge removed from liquid, non-hazardous wastes can be disposed of in the following several ways:

1. Sanitary landfill: Sludge can be mixed with solid wastes at a landfill and covered with a daily layer of soil.
2. Sludge farming: Sludge can be air dried at "sludge farms," composted, and used for either commercial or land reclamation uses.
3. Incineration: Sludge is mixed with either solid wastes or other combustible material to be incinerated. The resulting heat can be used to produce steam for either commercial use or electrical generation.

MATRIX INSTRUCTIONS

- I. Proximity to Sensitive Uses: The City of Irvine considers residential, schools, public institutions and unique open space areas, both existing and planned, to be sensitive uses for any solid waste facility. Proximity to commercial uses is usually unacceptable for a waste to energy facility, except when design considerations are accounted for. Proximity to industrial uses for a transfer station is normally acceptable. Commercial and industrial uses are not acceptable near a landfill site.
- A. Impact Rating: When considering a solid waste facility's impact on sensitive uses, the following items should be considered. Will the facility subject large concentrations of people to noise, dust, odors, vectors or view of the facility?
- | | | |
|-----|---|--------------------|
| 0 | = | no impact |
| 1,2 | = | minimal impact |
| 3,4 | = | nuisance |
| 5 | = | significant impact |
- B. Mitigation Potential: A facility can best be mitigated by distance from sensitive uses; however, other considerations such as prevailing wind conditions or screening by landforms could be used to assess the mitigation potential.
- | | | |
|-----|---|----------------------------------|
| 0 | = | no mitigation potential |
| 1,2 | = | minimal potential |
| 3,4 | = | significant potential |
| 5 | = | all impacts completely mitigated |
- II. Access Through Sensitive Use Areas*: Access routes through any residential areas are unacceptable to the City of Irvine. Care should be taken to minimize access along routes where schools, hospitals and other public institutions are located. For a transfer station, access routes as well as egress routes should be analyzed. Industrial areas are normally acceptable as an access/egress route for a transfer station or waste to energy facility. Commercial areas are normally not acceptable for access to any facility.
- A. Impact Rating: When assessing an access route, care should be taken to consider not only uses adjacent to the route but also the number of vehicles proposed, impacts of noise and litter and visibility of trucks to uses.
- | | | |
|-----|---|--------------------|
| 0 | = | no impact |
| 1,2 | = | minimal impact |
| 3,4 | = | nuisance |
| 5 | = | significant impact |
- *both existing and planned
- B. Mitigation Potential: The best mitigation would be relocation of the access route through a non-sensitive area (i.e., open space areas with no scenic value), but consideration should also be given to screening of access routes(s).
- | | | |
|-----|---|----------------------------------|
| 0 | = | no mitigation potential |
| 1,2 | = | minimal potential |
| 3,4 | = | significant potential |
| 5 | = | all impacts completely mitigated |

III. Relation to Major Arterials: Waste facilities should be located near major arterials so that traffic impacts are minimized. In addition, major arterials are generally built for heavy vehicular and truck traffic. The addition of collection vehicles then would not be unexpected.

A. Impact Rating: Items to consider when reviewing a facility's proximity to arterials are the arterials' ability to handle additional traffic, their structural ability to handle daily heavy loads, and the pedestrian/vehicle conflict potential.

0	=	adequate arterials available, no impact to circulation
1,2	=	adequate arterials available minor circulation impact
3,4	=	limited arterials, major traffic impacts
5	=	no arterials nearby for use

B. Mitigation Potential: Possible mitigation measures would be street improvements such as widenings or signalization of intersections. Special consideration should be given to proposals that reduce traffic congestion or conflict.

0	=	no mitigation potential
1,2	=	minimal potential
3,4	=	significant potential
5	=	all impacts completely mitigated

IV. Size of Facility: Waste facilities can range from small local facilities to large scale facilities which serve a large portion of the region. Size of the facility is usually indicative of the impacts a facility will have on surrounding land uses in terms of noise, odors, traffic and visual intrusion.

A. Impact Rating: When considering the size of a facility, acreage as well as capacity should be reviewed to determine its impact rating. Whichever factor presents the greatest impact shall be used.

0	=	not applicable
1,2	=	5 acres or less; less than 100 tons/day (TPD) accepted
3,4	=	20 acres or less; less than 1,000 TPD accepted
5	=	21 or more acres; over 1,000 TPD accepted

B. Mitigation Potential: Not applicable, assigned a "0".

V. Expected Lifetime: Facilities which have the potential for long term operation will have long term impacts on land use planning in adjacent areas. Given the potential for land use implications, the City considers a long lifetime to be a significant impact on adjacent properties.

A. Impact Rating: Facilities shall be rated as follows:

0	=	not applicable
1	=	less than 5 years
2	=	6-10 years
3	=	11-20 years
4	=	21-25 years
5	=	25 or more years

B. Mitigation Potential: Not applicable, assigned a "0".

VI. After Use Potential (Landfills Only): The City of Irvine considers it important for landfill sites to be developed so their after use potential can be maximized. Landfills which are poorly developed or restrict an effective after use are not acceptable to the City.

A. Impact Rating: When reviewing a landfill's after use potential, care should be given to determining the extent of natural habitat/scenery destruction, relationship with adjacent uses, and compatibility with the City's General Plan land use map.

0	=	significant potential
1,2	=	significant potential; some cost to habitat
3,4	=	limited potential
5	=	no potential

B. Mitigation Potential: Landfills can be developed which mitigate destruction to large areas of wildlife or the natural scenery. Other items to consider are the landfill's grading plan which can maximize after use, contouring to blend in the after use with adjacent uses and compatibility with the after use and adjacent open space areas.

0	=	no mitigation potential
1,2	=	minimal potential
3,4	=	significant potential
5	=	all impacts or restrictions to after use mitigated

VII. Waste Generation Area: The City of Irvine accepts responsibility for wastes generated within its own planning area. However, the City is not obligated to provide a waste disposal solution for other cities or areas which have not or will not find a solution for themselves. In reviewing a facility the percentage of Irvine wastes to be accepted there shall be considered and rated.

A. Impact Rating: Facilities shall be rated as follows:

0		
0	=	100% of waste is locally generated
1	=	85% - 99% of waste is locally generated
2	=	60% - 84% of waste is locally generated
3	=	45% - 59% of waste is locally generated
4	=	30% - 44% of waste is locally generated
5	=	less than 30% of waste is locally generated

B. Mitigation Potential: Not applicable, assigned a "0".

FIGURE 1
LAND USE COMPATIBILITY MATRIX

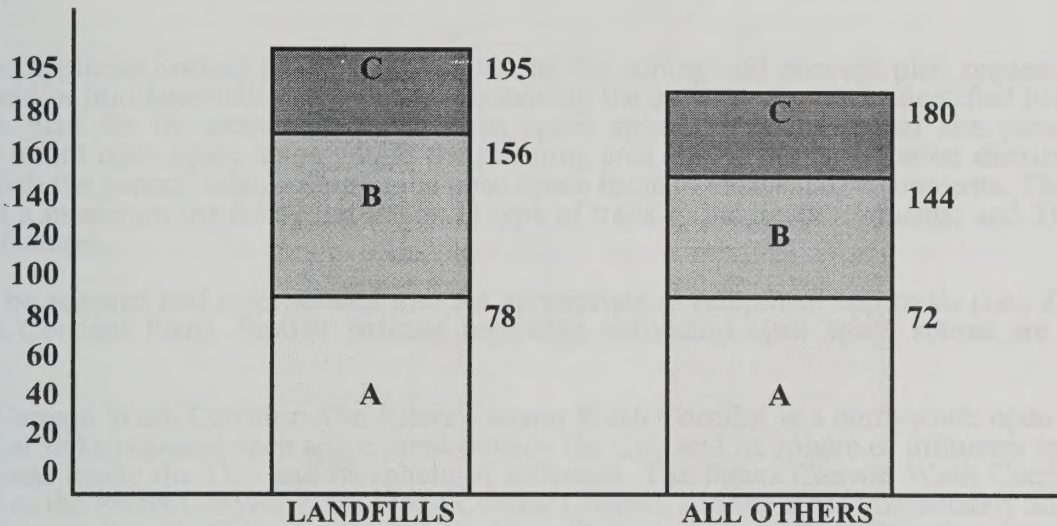
HOW TO USE THIS MATRIX:

1. Refer to Land Use Compatibility Matrix Instructions
2. Multiply factor weight and the sum of the impact rating minus mitigation potential to figure weighted value
3. Add weighted value to figure total
4. Compare total with Figure 2- Land Use Compatibility Rating Chart

FACTOR	FACTOR WEIGHT	IMPACT RATING -	MITIGATION POTENTIAL	WEIGHTED VALUE	NOTES
Proximity to sensitive uses	10 existing uses; 8 planned				Score of 45 or higher will exclude potential site from future consideration
Access through sensitive areas	8 existing uses; 6 planned uses				
Relation to major arterials	6				
Size of facility	5		0		
Expected lifetime	5		0		
After use potential	3				Use for review of landfills only
Waste generation area	2		0		

Total	minimum 12	Max. 195	landfills
	minimum 12	Max. 180	all others

FIGURE 2
LAND USE COMPATIBILITY RATING CHART



- A. Acceptable: no significant impact on adjacent uses.
- B. Acceptable with conditions: proposals in this category will have some significant impacts on the City of Irvine. Approval of sites should be contingent on circumstances that would add benefits to the city to offset some of the impacts. This higher rating indicates the more severe impacts, therefore the benefits should also rise proportionally.
- C. Not acceptable: significant impacts on adjacent uses. Site should be removed from further consideration.

CONSERVATION AND OPEN SPACE ELEMENT

APPENDIX L

Objective L-9 Recreation Areas

Policy (d):

Require that an applicant submit to the City, as part of the zoning and concept plan request for a planning area and/or implementation district area containing the open space spines identified below, a conceptual site plan for the treatment of the open space spines. The conceptual site plan shall encompass the entire open space spine within the planning area and/or implementation district. The plan will establish the general relationship of the open space spine to adjacent developments. The plan shall address at a minimum the following items: 1) type of trails 2) landscape elements; and 3) other special design features.

The plan shall be adopted and incorporated into the appropriate development approvals (i.e., Zoning Ordinance and Concept Plan). Further policies regarding individual open space spines are listed below.

1. Peters Canyon Wash Corridor: The Peters Canyon Wash Corridor is a north/south open space spine that links regional open space areas outside the City and its sphere of influence to open space areas inside the City and its sphere of influence. The Peters Canyon Wash Corridor is defined as the Peters Canyon Wash Flood Control Channel and the areas immediately adjacent to the channel along both the east and west edges. These policies apply to Planning Areas 1, 4, 7, and 10 as defined in the General Plan.
 - A variety of land uses are permitted in this corridor as indicated on the land use plan, including residential, commercial, industrial, institutional, parks, roads, as well as hiking, bicycling, and equestrian trails. These uses shall be developed in the locations shown on the land use plan, that is other uses may not be substituted and the arrangement of the uses cannot be revised without a general plan amendment.
 - The design of the Wash shall be integrated into the design of the adjacent land uses in the corridor through the use of landscaping materials, complementary open spaces, continuous trail systems, and similar techniques.
 - Adaptive, drought-tolerant plant materials should be utilized whenever possible to minimize future maintenance needs.
 - An extra attempt should be made in the design of the Peters Canyon Wash Corridor to enhance its perception as a natural amenity when viewed from the Santa Ana Freeway, Walnut Avenue, and Irvine Center Drive. A special landscape treatment shall be provided where each of the above identified roadways cross the Peters Canyon Wash. Because of the importance attached to the Santa Ana Freeway crossing, a minimum area of four acres shall be reserved on each side of the freeway. The configuration and amount of this acreage to be located on each side of the Peters Canyon Wash, and immediately adjacent to the freeway shall be determined through a conceptual plan submitted at the time of zoning. If a project area that is submitted for zoning is located on only one side of Peters Canyon Wash and adjacent to the Santa Ana Freeway, then the conceptual site plan shall establish the design concept for the entire four-acre landscape feature where the channel crosses that side of the freeway.
 - Berms, walls, landscaping, and other techniques shall be used between the wash and the industrial and commercial uses to screen unattractive elements of those uses from residential and open space areas.

- Uses which are included in the Peters Canyon Wash Corridor and which are open space in nature such as parks, greenbelts, recreation areas, trails, and parking areas should be located adjacent to the Wash wherever feasible to enhance the open space character of the Peters Canyon Wash Corridor. Special consideration shall be given to the relationship between neighborhood parks and the Peters Canyon Wash Corridor.
- As part of the first request for zoning involving an area adjacent to Peters Canyon Wash, a conceptual site plan for the treatment of the Peters Canyon Wash Corridor shall be submitted to the City by the developer for that area to be zoned. This plan shall be developed to illustrate the compatibility of the proposed development with these policies. The conceptual site plan shall encompass a study area which measures 500 feet from the channel's centerline or which is defined by the nearest paralleling arterial roadway whichever is less. The plan will establish the general relationship of the Peters Canyon Wash Corridor to the adjacent developments, and will not be construed as a precise design, but rather the basis for establishing development standards for a variety of interface conditions between the Wash and adjacent development. The development standards derived from the conceptual site plan shall be incorporated within the Planned Community Ordinances. Subsequent zoning submittals for other development areas located adjacent to Peters Canyon Wash shall also be accompanied by conceptual site plans. These plans shall reflect the previously adopted design standards which provide for overall continuity within the setback area throughout the length of Peters Canyon Wash within Planning Area 10. These elements will include trails, landscape elements, and other special design features. Preliminary site plans shall be submitted for approval by the Planning Commission prior to residential tentative subdivision maps. Final site plans must be submitted for approval by City staff prior to building permit issuance. Existing nearby residential areas shall be notified of the filing of these site plans and be provided an opportunity to comment prior to approval.
- A minimum building and parking setback of 25 feet with an average building setback of 35 feet shall be provided on the westerly edge of the Wash. Standards for the reservation of open space on the easterly side of Peters Canyon Wash shall be developed as part of the open space (greenbelt) study, and in no event shall zoning be granted prior to development of standards for the preservation of open space
- The Peters Canyon Wash Corridor should be designed in coordination with the Orange County Flood Control District, the Army Corps of Engineers, and the City of Irvine.
- The corridors should provide adequate flood control protection in accordance with the City and County requirements.
- The design of the flood control channels and adjacent land uses shall be well integrated, especially where parks can be located adjacent to the channels.
- Linear parks adjacent to the channel shall be a minimum of 150 feet wide.
- The corridors should be designed to accommodate and provide continuity for transit and trail systems adopted in the General Plan Circulation Element for that area.
- Access to the commercial sites by both vehicular and nonvehicular means shall be maximized.

2. San Diego Creek The San Diego Creek is an east/west open space spine that links together recreational and preservation areas within the City. The San Diego Creek Open Space Spine is defined as the San Diego Creek Flood Central Channel and the areas immediately adjacent to the channel.

The following policies apply only to Planning Area 13 as defined in the General Plan. For the purposes of these policies, Planning Area 13 open space corridors are defined as the San Diego Creek and the Edison substation transmission line right-of-way, and the areas immediately adjacent to these corridors as depicted through the approved concept plan.

- The types of uses which are permitted within these corridors are limited to conservation and open space uses. These include both passive and active open space and recreational uses, natural or man-made water courses, and trail systems.
 - The corridors shall be integrated with adjacent land uses through the use of elements such as landscaping materials, complementary open spaces, greenbelts, appropriate setbacks, and continuous trail systems. Except for these integrative elements, the San Diego Creek corridor area shall be maintained in a natural state, insomuch as the adequate flood control standards are met as required by the City, County, and State.
 - Adaptive, drought tolerant plant materials should be utilized whenever possible to minimize future maintenance needs and costs.
 - Any improvements within the corridors should enhance their perception as natural open space amenities, to the extent feasible, when viewed from the surrounding highways and freeways.
 - Reins, walls, landscaping, and other techniques shall be used between the corridor area and adjacent industrial, commercial, and institutional uses to screen unattractive elements of these uses from the corridors.
 - Uses which are open space in nature such as parks, greenbelts, recreation areas, and trails should be located adjacent to the San Diego Creek whenever feasible to enhance
 - Guidance of development within these open space corridors shall be provided by conceptual plans submitted to the Director of Community Development for review and approved by the Planning Commission. These plans shall delineate the treatment of the open space areas encompassed by the Edison right-of-way and the San Diego Creek.
 - The corridors should be designed in coordination with the Orange County Flood Control District, the Army Corps of Engineers, California Department of Fish and Game, Southern California Edison, and the City of Irvine.
 - The corridors should be designed to accommodate and provide continuity for intra-city transit and trail systems adopted in the General Plan Circulation Element for that area.
3. Planning Area 12: The following policies apply only to Planning Area 12 as defined in the General Plan. For the purpose of these policies, Planning Area 12 open space corridor is defined as the San Diego Creek, and the areas immediately adjacent on either side of the San Diego Creek.
- The types of uses which are permitted within the corridor are limited to conservation and open space uses. Specifically, these are passive and active open space and recreational uses as permitted in the Preservation and Recreation Areas definitions.
 - The design of the San Diego Creek flood control facility should incorporate channel stabilization and sediment control methods which optimize the avoidance of impacts on the existing wetland habitat and meet the Orange County Flood Control District design criteria for flood control improvements.
 - Existing wetland habitat that can be retained will incorporate a portion(s) of the existing San Diego Creek. On-site mitigation is encouraged to augment the existing habitat at areas which are retained. The precise size, location and opportunities for public access to the preservation area shall be determined in cooperation with U.S. Fish and Wildlife Service, California Fish and Game and other applicable resource agencies.
 - The improve San Diego Creek corridor shall be integrated with adjacent land uses through the use of elements such as landscaping materials, complementary open spaces,

greenbelts, linear park, appropriate setbacks, and continuous trail and hiking system. The improved corridor may potentially establish additional on-site wetland biotic resources while serving to provide the necessary 100-year flood storm protection for the surrounding area.

- Adaptive, drought tolerant plant materials should be utilized whenever possible to minimize future maintenance needs and costs.
- Berms, walls, landscaping, and other techniques shall be used between the corridor area and adjacent residential, commercial, and institutional uses to screen unattractive elements of these uses from the corridor.
- Uses which are open space in nature such as parks, greenbelts, recreation areas, and trails should be located adjacent to the San Diego Creek whenever feasible to enhance the open space corridor system.
- Guidance of development within this open space corridor shall be provided by conceptual plans submitted to the Director of Community Development for review and approved by the Planning Commission. These plans shall delineate the treatment of the open space areas encompassed by the San Diego Creek.
- The corridor should be designed in coordination with the Orange County Flood Control District, the Army Corps of Engineers, California Department of Fish and Game, Southern California Edison, and the City of Irvine.
- The corridor should be designed to accommodate and provide continuity for intra-city transit and trail systems adopted in the General Plan Circulation Element for that area.

4. Jeffrey Road Open Space Spine: The Jeffrey Road Open Space Spine is a north south spine that generally traverses the City's center (Figure 2). The following implementing actions apply only to that portion of the spine in Planning Area 12.

- Jeffrey Road Open Space Spine. The Jeffrey Road Open Space Spine will provide a continuous open space edge of variable width along the eastern side of the ultimate alignment of Jeffrey Road. Except for utilities and general plan roadway improvements, surface uses will be limited to trails and associated passive public recreation and park and ride facilities. It will be composed of the following gross areas generally depicted on Figure 2.

Additionally, should a park-and-ride facility be located in the Open Space Spine (i.e. southeast corner of Jeffrey Road and I-5), The Irvine Company may convey that portion of the Open Space Spine needed for the facility to Caltrans or other appropriate public agency.

- Parcel S-IB.

Between I-405 and the Barranca Parkway, the spine shall total 14 gross acres. The width of the spine at the southern end, abutting the Edison ROW-1 shall be greater than the average width of Parcel S-IB.

- Edison Row-2 and 3.

The spine for the portion of Jeffrey Road adjacent to the existing Edison right-of-way shall lie within that right-of-way.

- Parcels S-IA and S-IC

Between I-5 and Barranca Parkway, the spine shall be 16 gross acres. A park and ride facility may be located in the spine. Should a park and ride facility be located in the

spine (i.e. southeast corner of Jeffrey Road and I-5), The Irvine Company may convey that portion of the spine needed for the facility to Caltrans or other appropriate public agency.

• Parcel S-4.

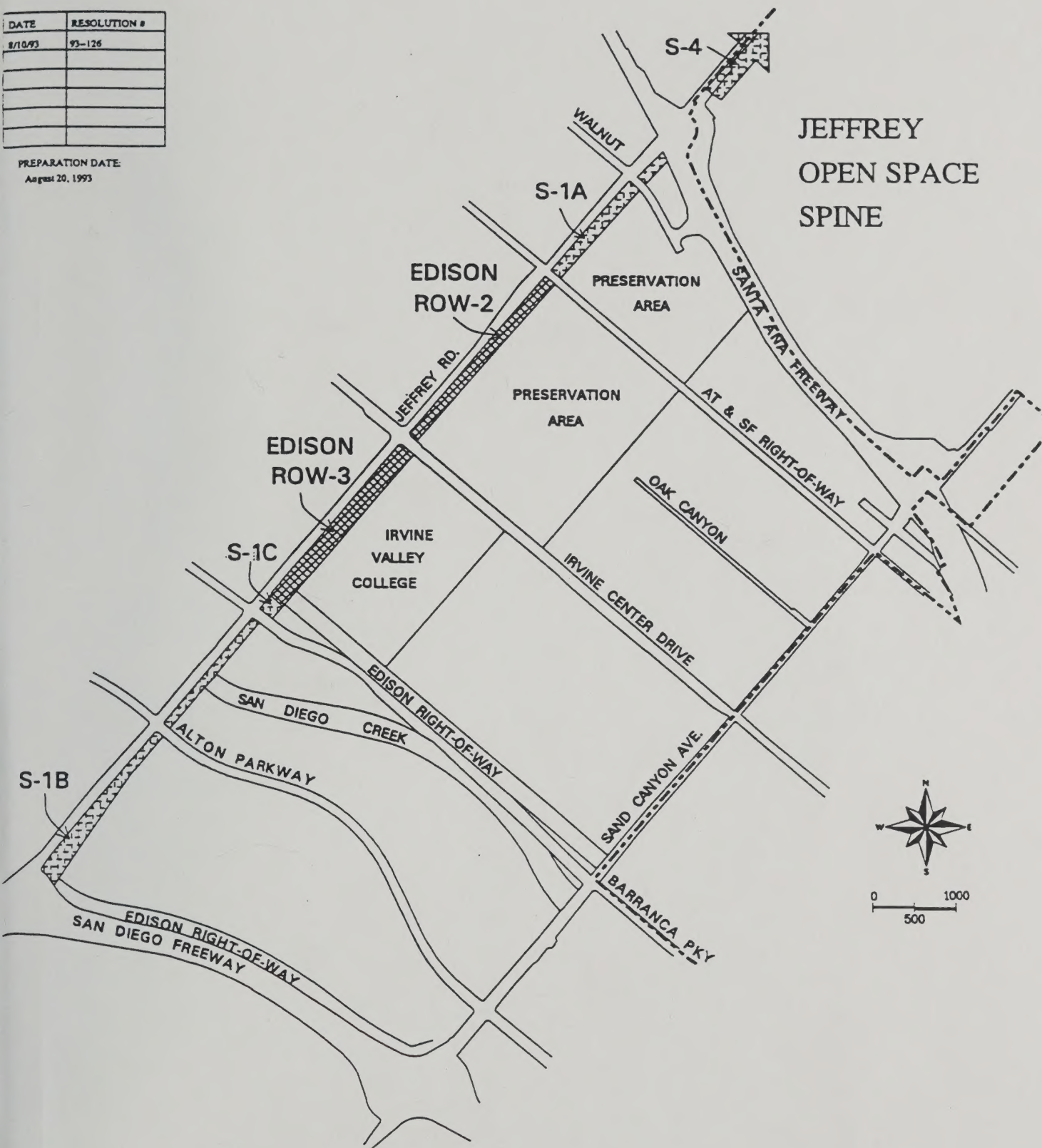
Between I-5 and the Preservation Area in the Lomas de Santiago Ridge, the spine will average 300 feet in width. The Company acknowledges the importance of completing the link of the Jeffrey Spine between the I-5 Freeway and the Lomas de Santiago Hills. The Company agrees to include plans for the spine with future development programs (either in the County or the City) for the land easterly of this spine in Planning Areas 6 and 9 and, pursuant to acceptable dedication agreements with the appropriate jurisdiction, provide offers of dedication for the spine. The City acknowledges and affirms its intention to cooperate in and coordinate planning efforts to arrive at mutual agreement on appropriate land use designations for this area pursuant to the Annexation Policy Agreement between the Company and the City dated February 8, 1984.

5. Northwood Railroad Right-of-Way: The Northwood Railroad Right-of-Way open space spine is an east/west spine that is primarily located within the Northwood Planing Area (8).
 - The open space spine shall follow the abandoned Northwood railroad right-of-way and be developed as bike and hiking greenbelt trail system.
 - Encourage the extension of the open space spine through Planning Area 4 and/or 7 (at the time of zoning/concept plan) in order to connect with the Peters Canyon Wash Corridor open space spine.
 - Encourage the connection of the open space spine to the Jeffrey Road open space spine in Planning Area 9.
6. Hicks Canyon Wash: The Hicks Canyon Wash open space spine is an east/west spine that is located in the City's northern sphere of influence. The Hicks Canyon Open Space Spine is defined as the Hicks Canyon Wash and the areas immediately adjacent to the channel.
 - At the time of zoning and/or concept plan for Planning Areas 1 and 2, a conceptual site plan for the treatment of the Hicks Canyon Wash Open Space Spine shall be submitted to the City by the developer for review and approval. The plan will establish the general relationship of the open space spine to the adjacent development. The plan shall address the following items: 1) the overall setback throughout the length of the open space spine; 2) connections with the Peters Canyon Wash Corridor and Jeffrey Road Open Space Spines; 3) type of trails; 4) landscape elements; and 5) other special design features. Preliminary plans shall be submitted for approval by the Planning Commission at the time of residential tentative subdivision approvals. Final plan must be submitted for City approval prior to building permit issuance.
 - The Hicks Canyon Wash Open Space Spine should be designed in coordination with the Orange County Flood Control District, the Army Corps of Engineers and the City of Irvine.
 - The Hicks Canyon Wash Open Space Spine shall be designed to accommodate and provide for the trail systems adopted in the General Plan Circulation Element.
7. Edison Easement: The Edison Easement open space spine is an east/west spine that is located generally in the City's center (Planning Areas 15 and 38).
 - The open space spine shall follow the Edison Easement and be developed to accommodate the trail systems provided for in the adopted General Plan Circulation Element.

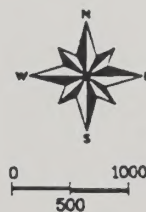
- At the time of zoning and/or concept plan for Planning Area 38, a conceptual site plan for the treatment of Edison Easement Open Space Spine within Planning Area 38 shall be submitted to the City by the developer for review and approval. The plan will establish the general relationship of the open space spine to the adjacent development. The plan shall address the following items: 1) the overall setback treatment within Planning Area 38; 2) connection with the Peters Canyon Wash Corridor; 3) type of trails; 4) landscape elements; and 5) other design features.
8. I-405/Edison Easement: The I-405/Edison Easement open space spine is an east/west spine that is located in the City's center (Planning Areas 12, 14, and 15).
- The open space spine shall follow the I-405/Edison Easement and be designed to accommodate and provide for the trail systems adopted in the General Plan Circulation Element.
 - At the time of entitlement for Planning Area 12, a conceptual site plan for the treatment of the open space spine within Planning Area 12 shall be submitted to the City by the developer for review and approval. The plan will establish the general relationship of the open space spine to the adjacent development. The plan shall address the following items: 1) the overall setback treatment within Planning Area 12; 2) connection with the Jeffrey Road Open Space Spine; 3) type of trails; 4) landscape elements; and 5) other design features.
9. Mason Regional Park: The Mason Regional Park Open Space Spine is an east/west spine that is located in the southern portion of the City (Planning Areas 21 and 24).
- The open space spine shall follow Mason Regional Park and be designed to accommodate the trail systems adopted in the General Plan Circulation Element.
 - Coordinate with the appropriate county agencies to ensure that the trail systems are developed.
 - Encourage the connection and extension of the trail system to Planning Areas 16, 21 and 22 open space systems.

DATE	RESOLUTION #
8/10/93	93-126

PREPARATION DATE:
August 20, 1993



JEFFREY OPEN SPACE SPINE



CITY OF IRVINE GENERAL PLAN APPENDIX FIGURE 2

U.C. BERKELEY LIBRARIES



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